

Copyright, 1919, by American Carpenter and Builder Company.

AMERICAN BUILDER

Formerly AMERICAN CARPENTER AND BUILDER

Member of the Audit Bureau of Circulations

Circulation Audited and Verified June, 1918

American Builder

Entered as second-class matter July 1, 1906, at the postoffice at Chicago, Ill., under the Act of Congress of March 3, 1879.

Published on the first day of each month by

AMERICAN CARPENTER AND BUILDER COMPANY

Publication Offices:

Radford Building, 1827 Prairie Ave., Chicago

EASTERN OFFICE: 261 BROADWAY, NEW YORK CITY

SUBSCRIPTION RATES

One year, \$2.00; six months, \$1.00; single copies, 25 cents. Special rates for two or more subscriptions when received together, to be sent to different addresses—Two subscriptions, \$1.75 each; three subscriptions, \$1.50 each; five subscriptions, \$1.25 each; ten or more subscriptions, \$1.00 each. Extra postage to Canada, 50 cents; to foreign countries, \$1.00.

ADVERTISING RATES

Furnished on application. Advertising forms close on the 15th of the month preceding date of publication.

PROTECTION FOR OUR READERS

The publishers of the AMERICAN BUILDER reserve the right to decline any advertising they believe is detrimental to the interests of its readers; to edit advertising copy and to change or eliminate any statements that reflect injuriously or cast discredit upon other building products, machinery, equipment, supplies or tools.

Be sure in writing to advertisers to say: "I saw your advertisement in the AMERICAN BUILDER."

EDITORIAL DEPARTMENT

WILLIAM A. RADFORD, *Editor-in-Chief.*

BERNARD L. JOHNSON, B. S., *Editor.*

J. D. EDDY

WM. REUTHER

CHARLES G. PEKER

A. W. WOODS

} Associate

} Editors

BUSINESS DEPARTMENT

WM. A. RADFORD, *President and Treasurer.*

E. L. HATFIELD, *Vice-President and General Manager.*

ROLAND D. RADFORD, *Secretary*

DELBERT W. SMITH

C. R. W. EDGCUMBE

J. R. ERIKSON

E. B. WOLFROM

} Advertising

} Staff

VOL. XXVII

April, 1919

No. 1

1,000,000 Homes to Build

DURING normal times the building industry in the United States erects annually homes for 600,000 families to supply the growth of the population and to replace the houses destroyed by fire and other agencies. During the last year and a half this building has practically been suspended. The results have been that there is now a scarcity of homes and every one who rents has had added to his financial burdens a considerable increase in rental.

Under ordinary conditions, there would be no hesitancy about getting busy to supply this need of homes, as wherever there is a demand for any commodity it usually has been supplied. Thoughtless people, however, have put off building the homes they need because they expected that immediately hostilities stopped there would be a return to pre-war prices in building materials and labor.

The quicker this idea is dissipated, the better for the country and the better for the individuals. There will be no decrease in the cost of living for five years, an eminent economist declares, and in consequence there will be no decrease in the cost of labor, which makes up a large percentage of the cost of building.

"The way to resume building is to resume building."

There is no one more interested in the resumption of building than the members of the building industry.

Others are interested in this subject and are working in several ways to bring about the immediate construction of the homes and other buildings that are necessary. But it lies with the building industry to see that the basic facts regarding the building situation are made known. Sitting idly by and waiting for a building job to turn up won't help the situation one bit.

Every prospect for a home should be thoroly "sold" on why that house should be built now. The reasons why now is the time to build are being preached in the magazines and newspapers, and thru the chambers of commerce and other civic organizations. But the builder is the one man who knows more about building conditions than any other man in his community. What he says and the facts he gets to his prospect will have the greatest influence.

There are 1,000,000 homes to be built in the United States. Get busy and build them.



Efficiency

IT ain't a senseless hoardin'
Nor stinting of our need,
But efficiency in spendin'
That should become our creed.

It ain't some money set aside
On impulse once awhile,
But steady savin' day by day
That builds the solid pile.—S. V. PERLMAN.

Middle West Shows Greatest Building Increase

PRIVATE individuals and corporations are responsible for most of the building activity in that section of the country east of the Missouri River and north of the Ohio, according to a statement just issued by the Division of Public Works and Construction Development of the U. S. Department of Labor. The building figures in the statement are for the first three weeks in February, and while they show building activities far below the pre-war normal, they show, also, a marked increase in February over January of this year.

Contracts awarded during the first three weeks in February cover building and construction works to cost approximately \$92,000,000. The total of the January contracts was but \$50,731,000. February's increase over January, since the former figures are for three weeks only, will be more than \$50,000,000, or almost double the January figures.

New England is not making the showing western districts are making. The New England states during the first week in February reported contracts awarded to the amount of \$331,000. In the second week the sum was \$554,000, and for the third week \$662,000, making a total for the three weeks of \$1,537,000. The January total was \$4,648,000, making a total for the three weeks of \$1,537,000. The January total was \$4,648,000. The Department of Labor's statement makes this comment on the New England situation:

"The New England section contrasts in this respect with other sections of the country, especially the Middle West, where February is showing a large gain over January in the amount of contracts awarded. Of the contracts awarded during the week ending February 20, private construction was 94 per cent, while 6 per cent was for government construction, nothing in the way of municipal or state improvements being included. Of the private construction, 22 per cent was of an industrial character, 32 per cent business and 46 per cent residential."

New York and New Jersey show a gain in February over January. During the first week in February this district reported contracts on building and construction work totaling \$3,716,000; during the sec-

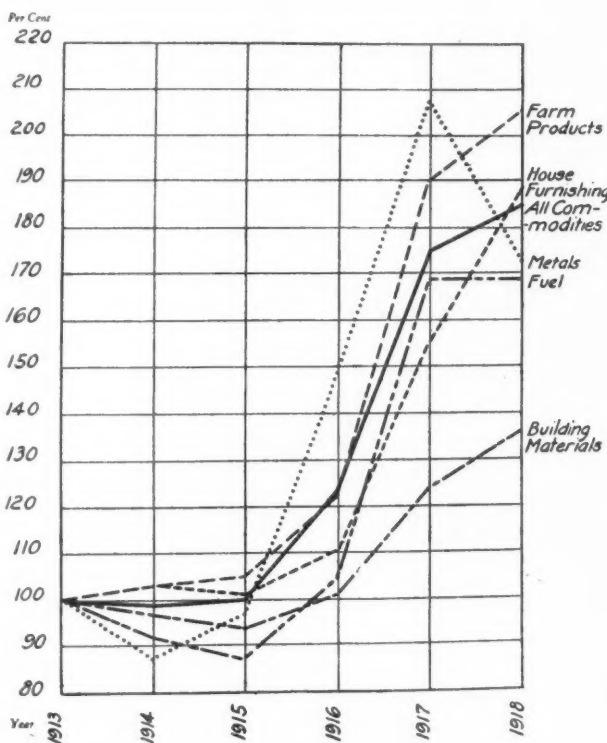
ond week, \$2,242,000, and in the third week, \$3,201,000. Total for three weeks, \$9,159,000. The January total was \$8,152,000. Of the contracts awarded during the week of February 21, in money value, 71 per cent was for private interests and 24 per cent for state and municipal work, while federal government work was 5 per cent. Of the private construction, 78 per cent was of an industrial nature and only 10 per cent residential.

In Philadelphia, Baltimore and Washington, and adjacent territory, contracts awarded in the first week of February were of a money total of \$2,187,000; the second week the total was \$1,557,000, and for the third week, \$1,577,000, a total of \$4,934,000 for the three weeks. The contracts in January totaled \$15,805,000. This latter figure, however, was larger than the normal for January, based on figures from 1910 to 1917. In this period the January contracts did not exceed \$10,000,000.

Ohio, West Virginia and western Pennsylvania show contracts awarded in the sum of \$1,960,000 for the first week in February, \$3,363,000 in the second and \$1,178,000 for the third week. As January shows contracts in the sum of \$7,916,000, if the district keeps up the February average for last week in the month it will show a slight improvement over January. Residential building in this territory was 38 per cent of the private building, which latter was 80 per cent of the total.

Iowa, Illinois, Wisconsin, Indiana, Michigan, Missouri and Kansas, on the basis of the Department of Labor's figures, show approximately a five-fold increase in February over January. For the first week in February, in this district, the contracts reported totaled \$14,585,000; during the second week, \$8,383,000, and in the third week, \$46,146,000. The three weeks' total is \$69,114,000. The January total was \$13,710,000. The Division of Public Works and Construction Development makes this comment on the western figures:

"It is evident that the business men of the Central West are waking up to the fact that those who start building early this



Showing Range of Prices During the Last Six Years. Building Materials Have Advanced Only 35 Per Cent Since 1913. Where Products of Agriculture, Mines and Industry Have Increased from 70 to 105 Per cent.

(Continued to page 174.)



Too Busy To Listen

"Save Space" is Keynote in Home Building

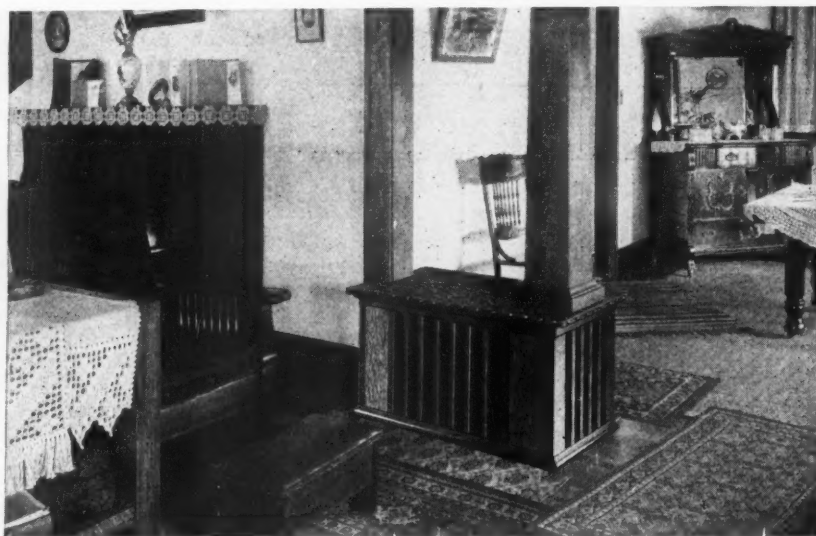
BUILDERS FIND PROVIDING ALL CONVENIENCES IS PROFITABLE AND GIVES THE CLIENT THE BEST SATISFACTION

"SAVE space" is the keynote in planning the modern home. However, saving space does not mean that any of the conveniences that have become necessities in the lives of Americans shall be sacrificed; in fact, the ingenuity of builders and architects is producing more of them every day, and at the same time the houses are not being enlarged to accommodate them.

Satisfaction and comfort are synonymous. The satisfied home owner is one who is comfortable in his new home; the satisfied housekeeper is one who has her home so arranged that her work is done with the least amount of effort. The builder who provides the conveniences that produce comfort for both the home owner and the housekeeper has satisfied customers, who, as the old slogan says, are his best advertisements.

There are many places in the home where the builder can save space, or, rather utilize the space to the best advantage, and at the same time put in little features that make the

home exceptionally satisfactory and convenient. Aside from the kitchen, the living room is the one that is used most. This is the room where every



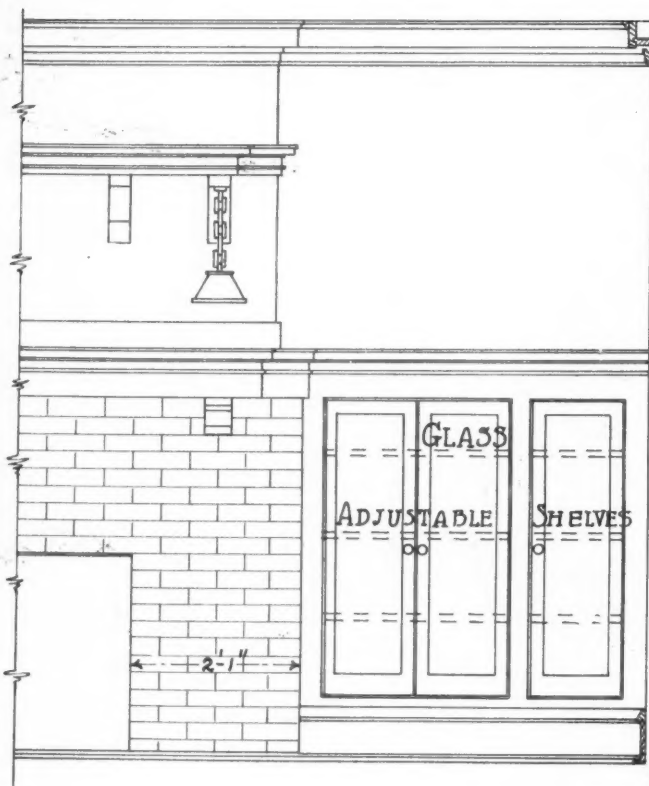
Registers Required by Pipeless Furnaces Now Are of Artistic Design and May Be Set in the Colonnade. The One Shown Here Has a Leather Top and Leather Panels.

member of the household rests from his labors during his waking hours. In selecting the home furnishings,

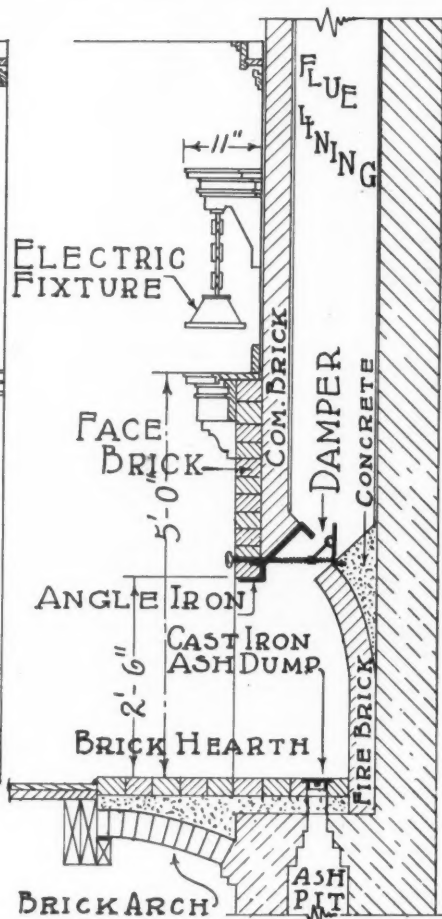
special attention is paid to the furniture for the living room, with the view of making it a comfortable place. The task of the builder is to get as many conveniences and comforts into the living room as possible without taking up the floor space.

Fireplaces Are Most Popular

One of the most satisfactory features of the living room is the



BRICK FIRE PLACE



fireplace. More than half the plans for homes that will be built this year provide for fireplaces in the living room. However, many of those who do not specify fireplaces would have them included in the plans if the builder would make the suggestion. The face brick manufacturers now are in a position to supply brick, and the artistic effects that can be secured even in the less expensive fireplaces make them attractive features—features that will make for satisfaction and comfort. When the fireplace is located in an exterior wall there usually are

built-in bookcases, with windows above, or wall seats on either side.

In bungalows and small houses the living room often serves the double purpose of a bedroom as well. This is made possible by the disappearing beds. Concealed behind mirrored doors or hinged and swung into a closet, these beds are as comfortable as can be found in any bedroom. They are out of the way in the daytime, and are taken down at night with little effort or trouble. The ceiling bed, too, is being used for this purpose. Being built into the ceiling, it has the advantage of requiring no closet, and as there is a ceiling panel both above and below it, when down there is no opening exposed.

Concealed Beds Comfortable

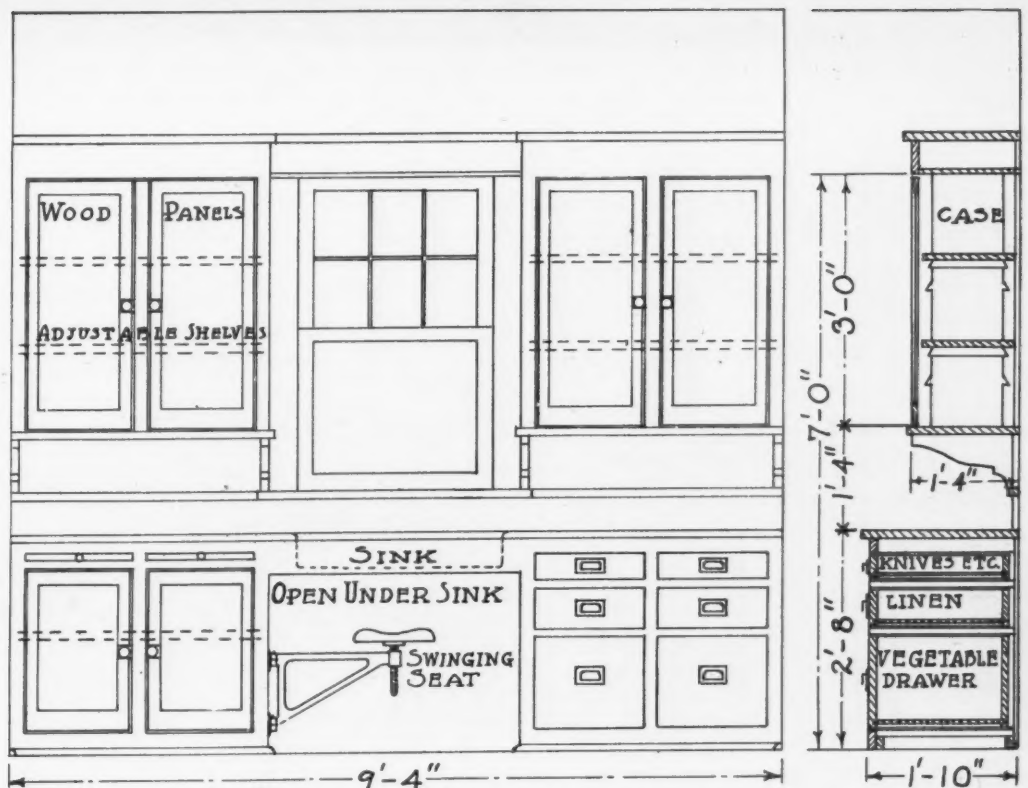
The sun parlor, or sun porch, is another place where wall, closet, and ceiling beds may be installed. Not only does this arrangement provide a sleeping porch, but also provides a place where the members of the family may rest in the daytime, and when they are not in use the space may be used for chairs.

The built-in sideboard in the dining room makes an attractive feature, which is most useful and takes less space than a piece of furniture of the same description. The addition of a bay window also provides space for a pleasant breakfast nook. Oftentimes the owner will suggest that wall seats be put in the bay window. Thoughtful architects discourage this idea on the ground that the dining room is used less than any other room in the house and that seats are a

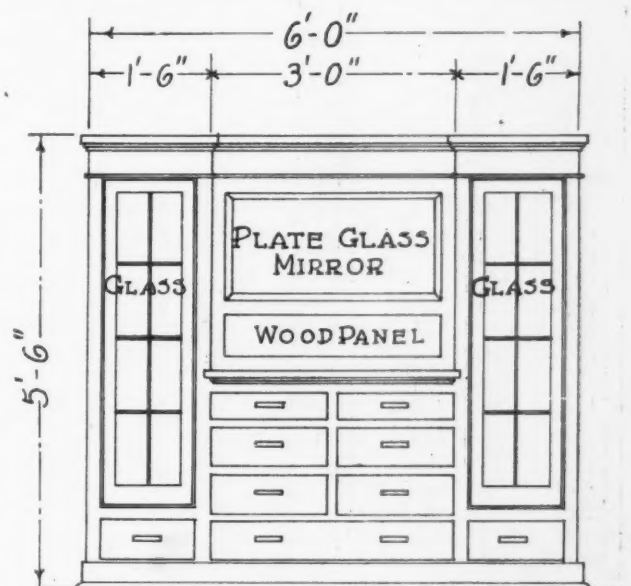
waste of valuable space at the windows.

Kitchen Conveniences

It is in the kitchen, however, that the builder can use his ingenuity to make the "woman's workshop" convenient and efficient; that is, a place where the work may be done as easily as possible. This is the most important room in the house, and if the housekeeper finds her work there pleasant the builder has done much toward making the home comfortable.



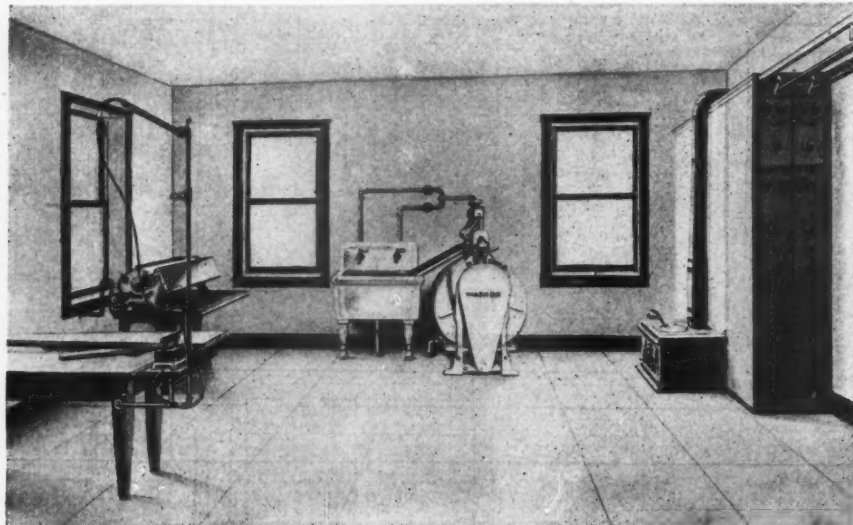
KITCHEN CUPBOARD



BUFFET IN DINING ROOM

The arrangement of the kitchen should be simple, but at the same time its fixtures should be so placed as to require as few steps as possible.

without requiring a step. As it is open under the sink, a swinging stool can be hung, giving the worker a seat while engaged in her duties. Also it is an easy matter to provide a covering for the sink, which when in place makes a good work table. Below on either side is provided space for pots and pans and drawers in which may be kept the kitchen linen, etc.



A Completely Equipped Laundry Makes Wash Day Easy. Here Are Shown the Electric Washer, Ironing Machine and Hand Iron and the Dryer.

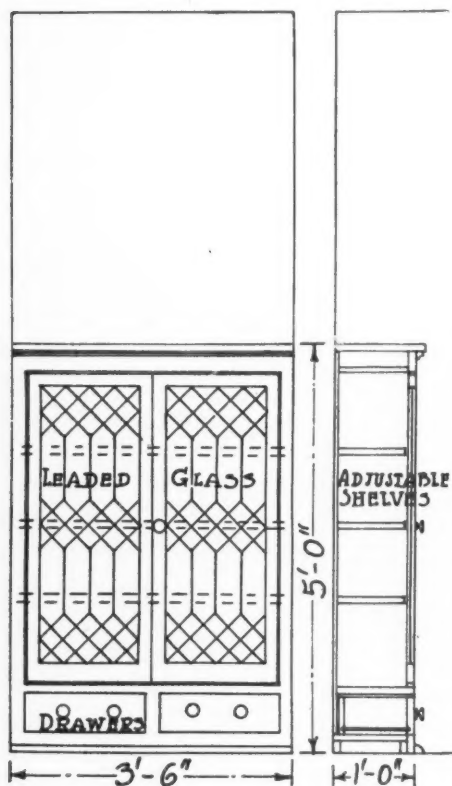
The pantry should be so located that the refrigerator can be iced from the rear porch. There are many advantages to this plan, among them being that the ice man does not have to come into the kitchen and that the refrigerator is shut away from the heat of the kitchen stove. In the pantry is placed the shelves on which the staple foods are stored. One feature that is always good is the hinged or pivoted flour box.

Cleanliness is a kitchen essential. Thus do most architects recommend tile floors and walls. However, if the owner does not desire to pay the little extra cost, maple floors are used. The woodwork usually is of southern pine, as are the other built-in fixtures.

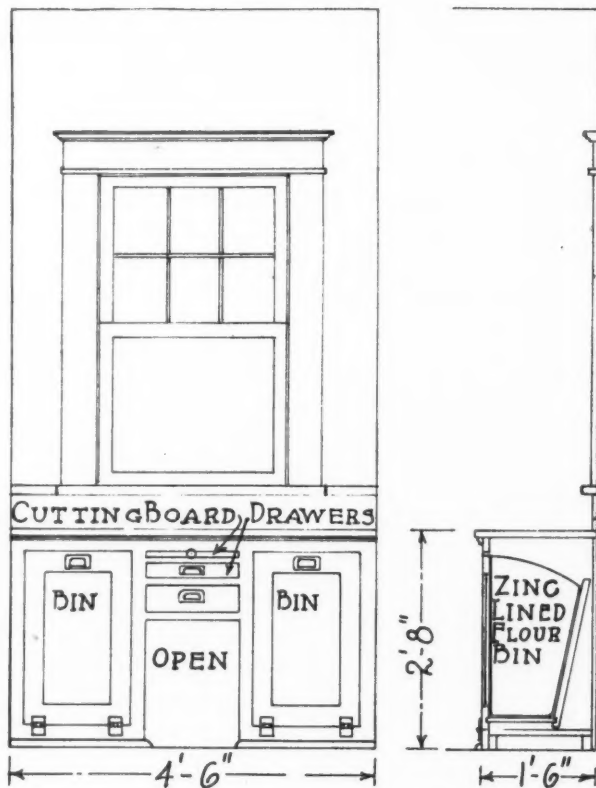
In the basement are the family heating and power plants, the electric or gas lighting plant, the cold storage room and the laundry. Some of these plants are not required, of course, when there is a supply of gas, water and electricity at hand. But two of these, the heating plant and laundry, always are necessary.

Herewith is illustrated a suggestion for a cabinet for the dishes and kitchen utensils, built around the

sink. Every house keeper likes, altho few get it, a sink with a window above it. And usually the dishes are kept in a cabinet on the other side of the kitchen, or in a room off the kitchen. This arrangement means many unnecessary steps. The illustration shows a cabinet for dishes on either side of the sink. When the dishes are washed they are put away



BOOK CASE



KITCHEN WORK TABLE

Heating Plant and Laundry Equipment

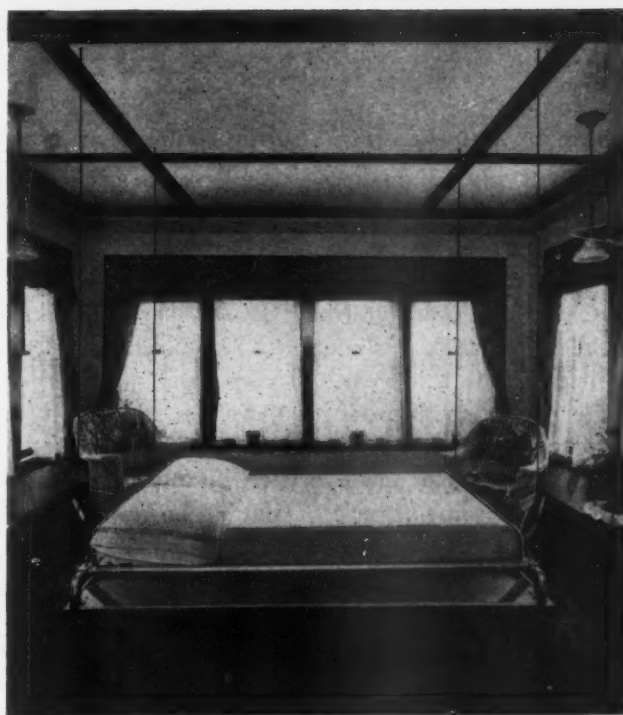
Sufficient heat always is a requisite in the home, if it is to be the comfortable home the builder wants to produce. Care should be used in recommending and installing the heating plant, whether it be a furnace, with or without pipes, a hot water system or a steam heating system. For the average house, furnaces usually are installed and make satisfactory heat producers. For the smaller houses, pipeless furnaces are oftentimes desired, while the modern pipe furnaces are most efficient.



This Artistic Dutch Colonial House Has Only Four Large Rooms, But Is Provided with Three Closet Beds, Accommodating That Many Persons.

Laundry equipment may be as elaborate or as simple as the home owner may desire and be willing to pay for. The accompanying illustration shows a completely equipped home laundry, with stationary tubs, electric washing machine, ironer and dryer. Either or all of these fixtures may be installed.

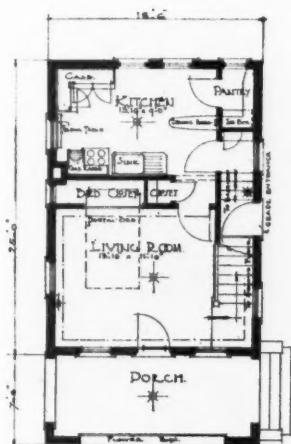
Modern inventive genius has brought to the coun-



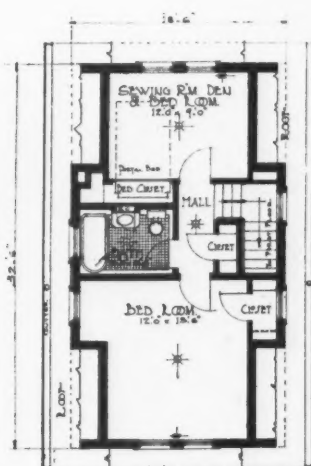
The Ceiling Bed Is a Handy Piece of Furniture in the Sun Parlor. When Not in Use It Disappears in the Ceiling. An Artistic Panel Closes the Opening When the Bed Is Either Up or Down.

try home owner all the conveniences of the city. He may have electric light; gas for the kitchen stove or for light; water, hot and cold, thruout the house, while the chemical closets and sewage disposal systems bring these conveniences also.

(Continued to page 168.)



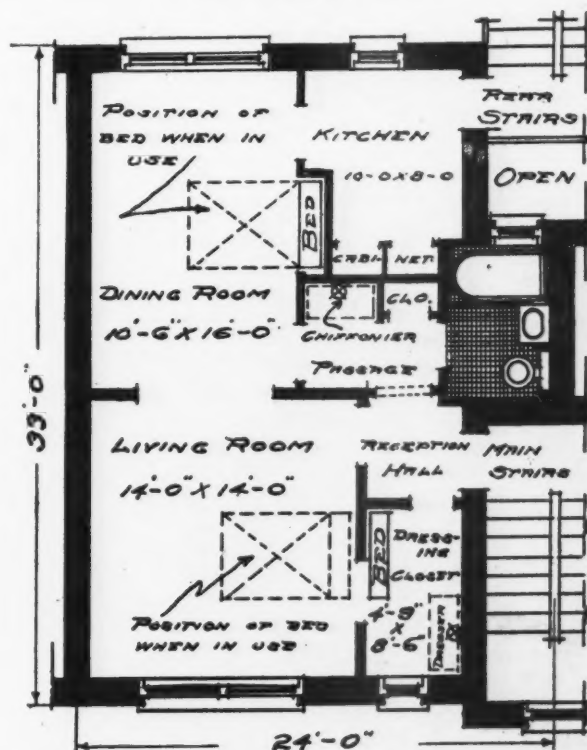
FIRST FLOOR PLAN



SECOND FLOOR PLAN

Showing How Closet Bed is Installed in Living Room Closet. This Type Permits Free Access to Closet.

Both Bedrooms Are Equipped with Beds Attached to Closet Doors That Swing on a Center Pivot.



A Three-Room Apartment with the Efficiency of Five Rooms Thru the Use of Concealed Beds.

Thousands of Garages to be Built—How to Build Them

BUILDERS HAVE PROFITABLE FIELD THRU INCREASED PRODUCTION OF AUTOMOBILES—HANGING DOORS IN MOST EFFICIENT WAY GIVES OWNERS SATISFACTORY BUILDINGS

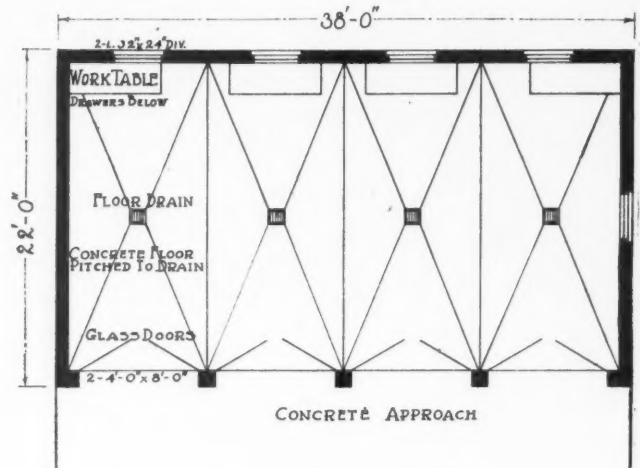
GARAGE construction will be a considerable part of the building activity of 1919. Men in a position to make a fairly accurate estimate say that there will be 2,000,000 passenger automobiles and 200,000 motor trucks produced in the United States this year. These figures are double those of the 1918 production, as restrictions hit the automobile industry as well as the building industry. Every automobile and every truck must be housed. Garages for some of the 1919 output, however, already are built, but many thousands of new buildings of this type will be required.

The private garage is a comparatively new kind of building that has come into prominence with the automobile. And with its coming it has presented many new problems for the builder. In exterior design the garage should conform as far as possible with the residence to which it belongs. There must be room for the automobile and space to work around it. These are the two essential features. Coupled with them, however, have come many others, especially in the more elaborate buildings, such as a heating plant, rooms above for the chauffeur and work bench and tools for the needs of the owner or the mechanic who takes care of the car.

A Multiple Garage Plan

A great majority of garages are of simple design, but first-class construction. They are made to serve the purpose of housing the automobile in a con-

venient and safe building. Shown in the accompanying illustration is a multiple garage, space for four automobiles being provided by duplicating the floor plan shown and the wall and roof construction, a cross-section of which is also illustrated.



FLOOR PLAN OF 4 CAR GARAGE

There is a substantial building of tile construction with brick veneered walls, and a wooden trussed rafter roof, covered with shingles. The 12-inch hollow tile and brick walls set on concrete foundations make a sturdy building. Each section is 9½ feet, with an 8-foot opening. The concrete floor is pitched to a drain in the center, which makes washing the auto-



A Multiple Garage for Four Cars, Floor Plan and Cross-Section of Which Are Shown in Other Illustrations. The Plan May Be Used for Garages to House One or More Cars. The Hip Roof Makes this an Attractive Building. The Doors Are Illustrated Hung to Open in, but Any of Several Types May Be Used.

mobile easy. At the rear is a work table with drawers for the tools.

Builders can erect from this plan and cross-section either a one, two, three, or four-car garage. And while the doors swing in in the plan shown, any of a number of different types of doors may be installed.

By nature of its location at the rear of the house, the garage must occupy as little space as possi-



This Shingle Garage Makes an Attractive Building, and the Door Hardware Helps Greatly. These Doors Swing Out and Are Held Open by an Arm that Locks Automatically.



Triple Doors that Slide Around the Corner and Fit Snugly Against the Side Wall of the Garage. They Move Easily and Require Little More Than the Thickness of the Door When Open.

of one side of the building so that they may be opened easily; held open securely, and require as little space as possible.

Several types of doors have been designed for garages. And with the exception of the swinging door, each is hung and operates on a track.

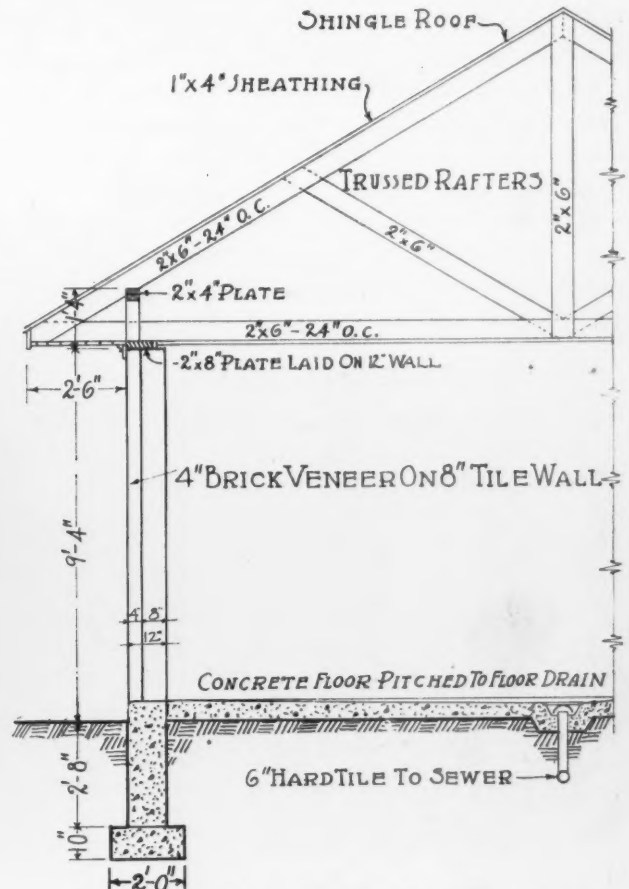


The Basement Converted Into a Garage. Only Enough Space for the Car Is Needed, the Swinging Sliding Doors Taking Up Little Room.

ble, thus the building must be compact. To accomplish this one of the problems of the builder is hanging the doors, which occupy the greater part

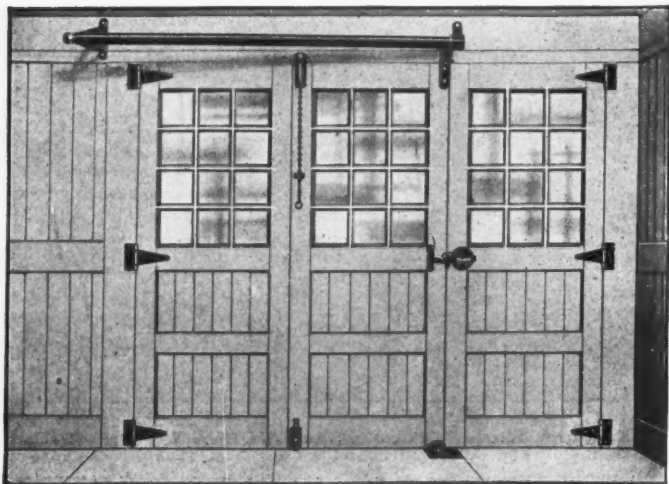
Swinging Doors Much Used

The wide door that swings out, of course, is the most economical to hang, as all the hardware it requires are the hinges and a holder that will prevent the door from swinging shut and slamming against the car and damaging it. The accompanying illustration shows the exterior view of an excellent example of a one-car garage of shingle construction, with doors



CROSS SECTION OF GARAGE

hung to open outward. The doors are held open by a holder that prevents them from closing at inopportune times. This holder locks automatically and is



Bolts at Top and Bottom and Latch Securely Hold the Doors in Place, When the Floor Guide Is Used.

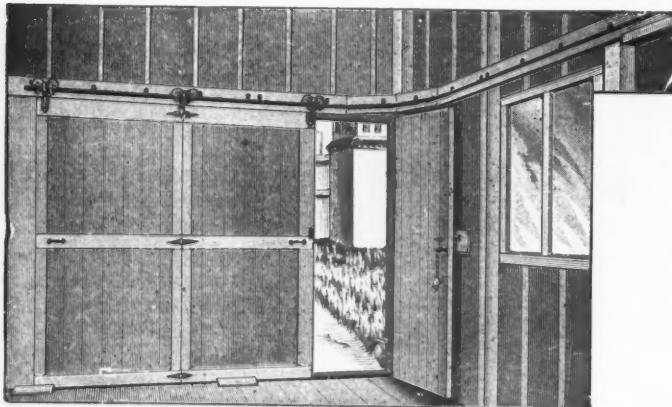
released from the inside of the garage by a chain. The hinges are attractive in design and are made especially for this class of work. The long hinge strap not only adds to the appearance of the doors, but reinforces them.

Doors That Slide Around the Corner

Doors that slide around the corner are hung in the one-car stucco garage that is illustrated. These doors are hung on a curved track, hangers being attached to two of them, leaving the third free to be used as an entrance door. Hinges allow them to turn at the corner and when they are fully opened they are flat against the side wall of the garage, requiring little room either to operate or when they are out of the doorway. The hardware required for these doors is a single track, swivel hangers and the hinges and handles.

Sliding and Swinging Doors

Garage doors that slide and swing out of the doorway and fold against the side walls are being used in



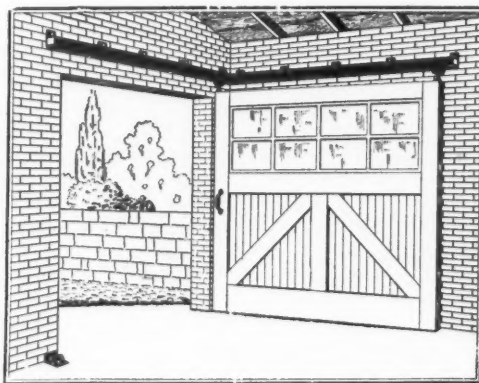
The Entrance Door Opens Back Against the Wall and the Two Doors Slide in Front of It.

many garages. They usually are hung in two sections, a single door swinging one way and the other two sliding on a track and folding at the same time. Three, four, five or six doors may be hung in this way, meeting all requirements.

As these doors are narrow and fold inside the

building they do not require much space. The second door from the jamb is always supported and guided by a hanger sliding on the trolley track. The doors fit flush with the door frame and the joints between the doors are rabbetted so that a very tight fit is a result, making them weather-proof. A door stop is fitted at the top and sides of the doors.

For three-door openings the hanger apron should



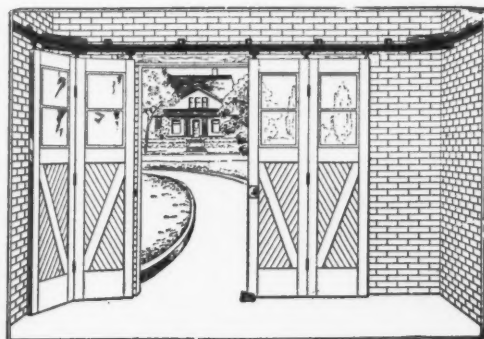
Right-Angle Door That Swings Against Side Wall. Track and Swivel Hangers Are Necessary.

be set flush with the edge of the door. The top of the hanger apron may be set in line with the top of the door. The end of the track over the hanger

when the doors are closed is set close to the wall, but the outer end is supported at various distances from the wall by track brackets. Vertical adjustment devices make it easy to level the hanger so that it will rest on the track at all positions. The doors are locked at top and bottom by bolts, adjustable for varying heights of doors. This style of doors is particularly adapted to a small garage with no other opening. In larger garages more doors may be used; the four-door type opening in the center; the five-door with three on each side. The minimum head room for three or four doors is 6 inches and for five and six doors $8\frac{1}{4}$ inches. The doors should not exceed 3 feet in width.

Another Type of Triple Doors

Another type of a three-door installation is shown in two of the illustrations. Both show interior views of a garage, one with the larger doors closed and



Hinged Doors That Slide Around the Corner on Either Side of the Garage.

the entrance door open and the other with the three open. These doors slide around on a curved track until they are parallel with the wall. It will be seen, however, that the entrance door opens against the wall, the hinges being underneath the curve in the track. The two larger doors follow the track, and the end to the front of the building is over the entrance



Two-Car Garage with Parallel Sliding Doors.

door. The single door is the ordinary 30-inch size, while the others may be 30, 36, or 40-inch doors, as the size of the opening requires.

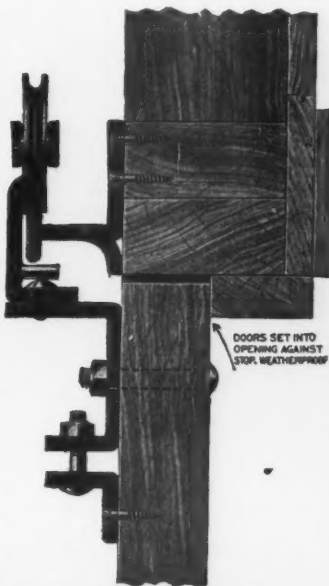
Right Angle Doors

Where the front of the garage is open practically its full width, right angle doors are often used. Either one or two doors are used. As is shown in the accompanying illustration, two runs of track are used for the single door, one on the side wall and one over the door. Swivel hangers are attached at the extreme sides of the door. As the door is pushed open the hanger on the side wall track turns and the door slides until it is parallel with the wall. If the car is nearly the length of the garage, and less clearance space is available, two doors should be used.

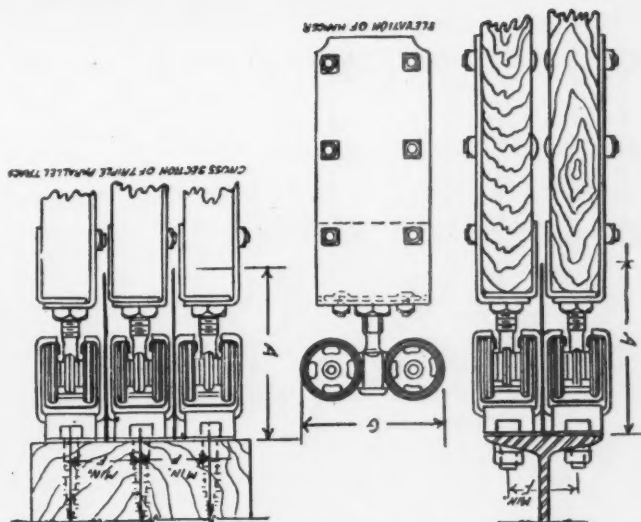
Parallel Sliding Doors for Two-Car Garages

The parallel sliding doors are suitable for openings large enough for two or more cars. The two illustrations show a two-car garage, one with one door open and the other with the doors closed. This hip-roofed garage is of brick construction. A steel weather strip is placed between the tracks to close the space between them and the top of the door. The weatherstrip extends from a leader to an inch or two below the tops of the doors.

The makers of garage door hangers have solved the problem of easily operated doors for all types of garages and buildings of this type can be placed in a space in the yard



Sectional View of Swivel Hanger.



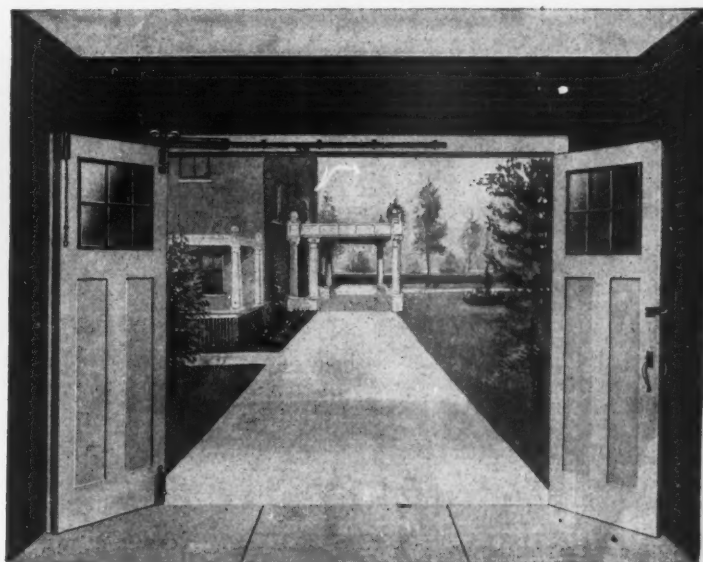
Sections Showing Double and Triple Parallel Tracks for Overhead Attachment.

where it is convenient for the owner. Many times this place is just large enough for the building itself, so that the doors can be swung out of the way to make such a structure possible. Familiarity with these various types of doors will be of great assistance to the contractor and builder this year in his work on garages.

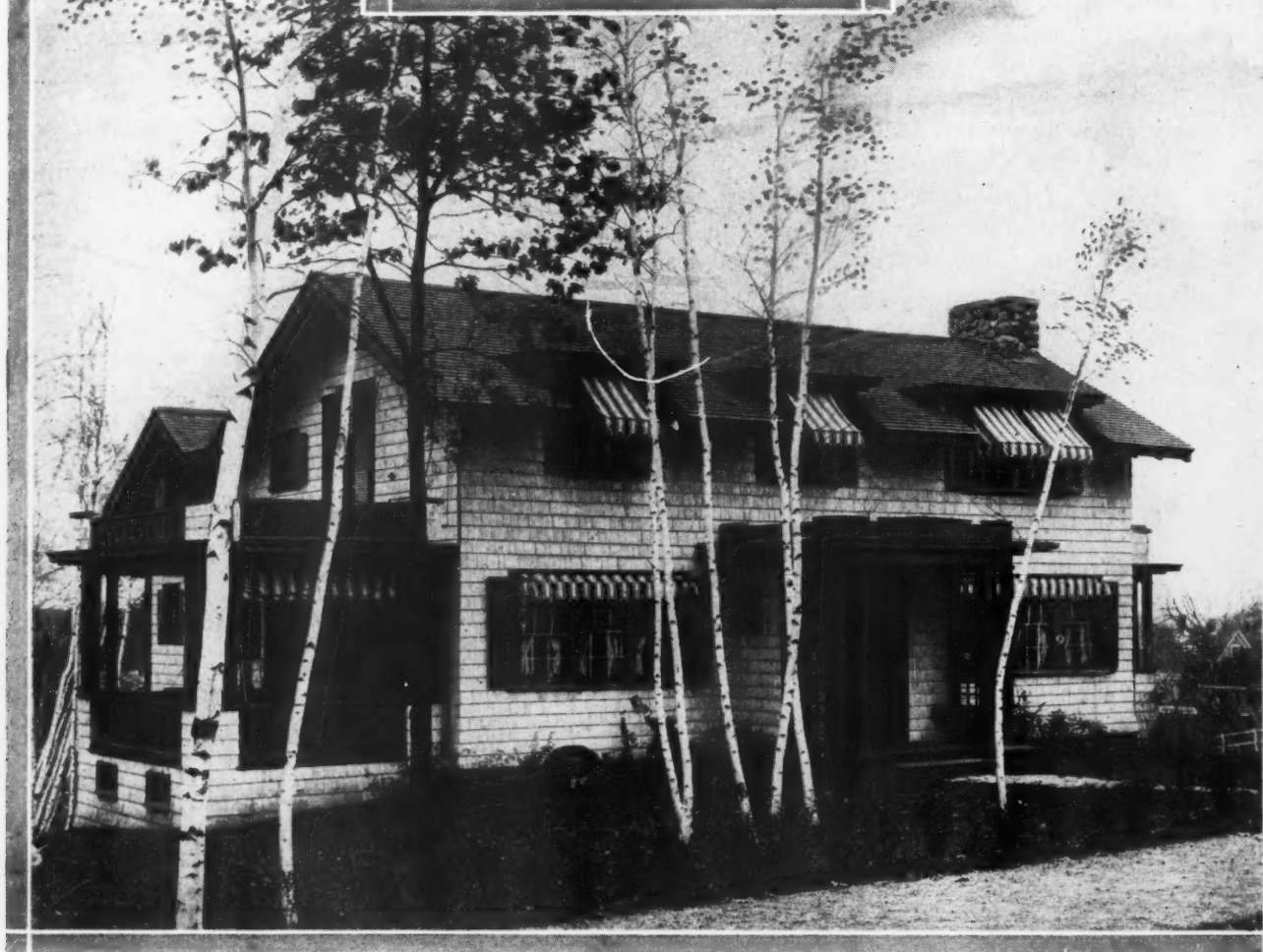
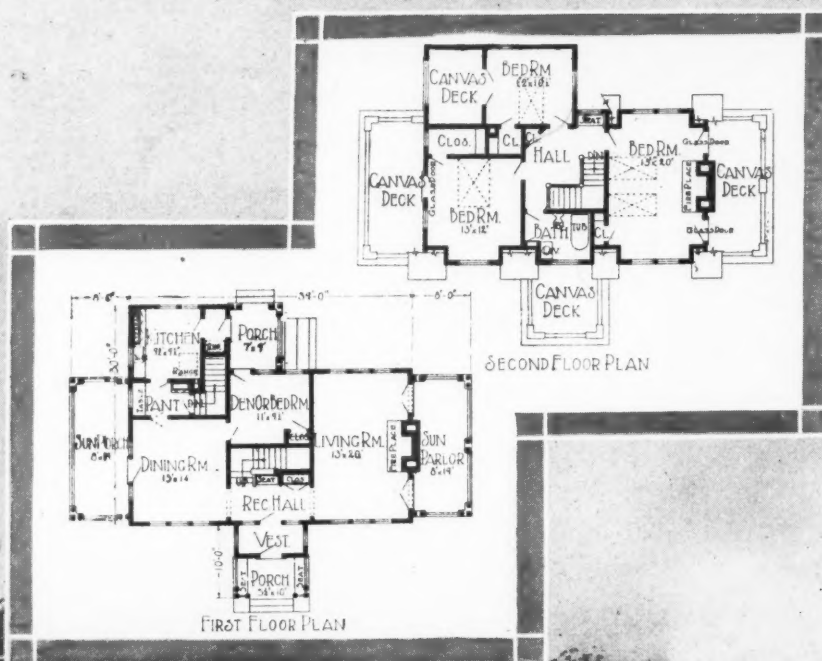
BROKEN eggs cannot be mended."—(Lincoln.)
Neither can "cashed-in" War-Savings Stamps grow to their maturity value.

AUTOMOBILE dealers are worth cultivating. They know who are buying new cars. Every owner of a new car is in the market for a garage, providing, of course, he hasn't one.

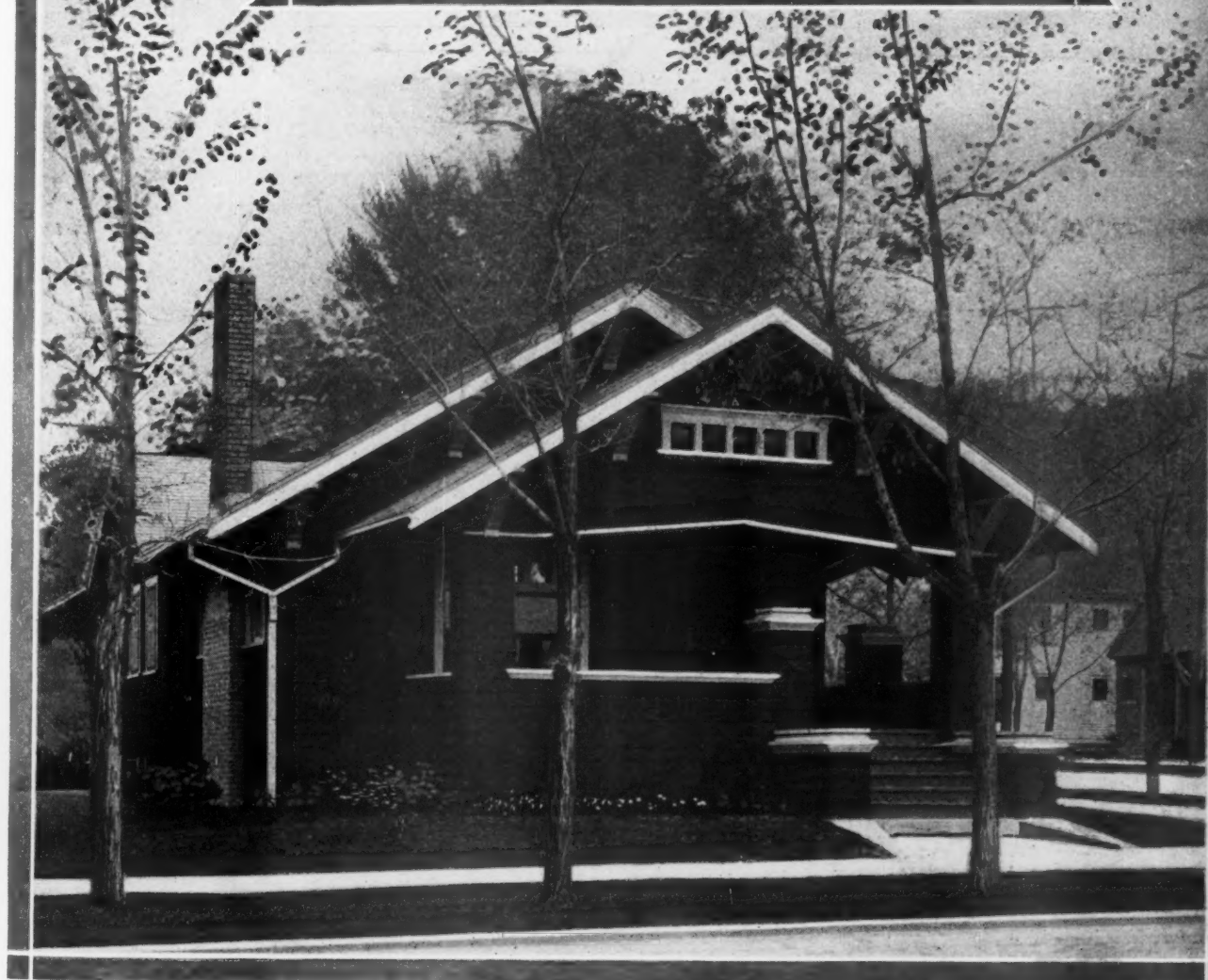
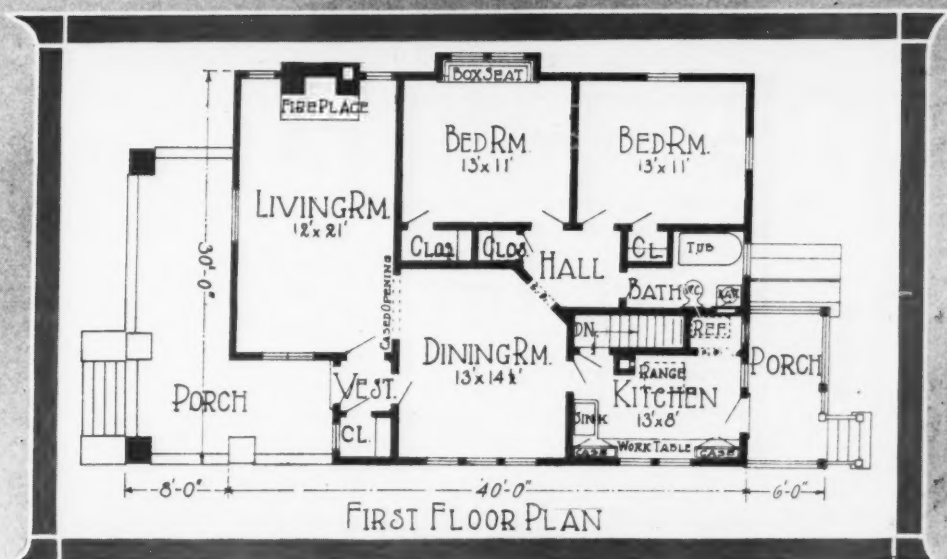
THERE is a greater responsibility in building a home than in any other structure. More often than not, the owner is making a considerable sacrifice to secure a home. Put your best into it for him, as a matter of principle.



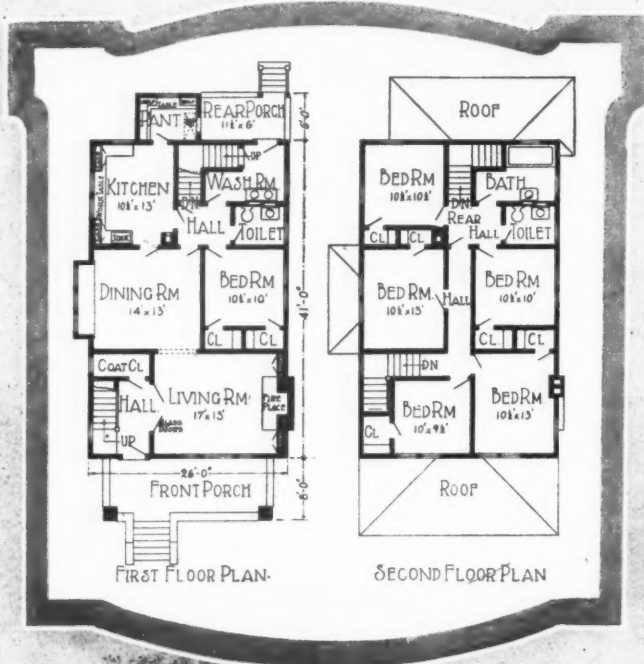
The Doors Hug the Wall Snugly When They Are Open, with this Kind of an Installation. One Is Used as an Entrance Door, While the Other Two Slide and Swing.



UNIQUE SEVEN-ROOM HOUSE. Here is an attractive home, 30 by 39 feet in dimensions, with porch projections of eight feet at either end and ten feet on one side. Two sun parlors, two porches and four canvas decks are features of this design that will find favor with the lover of fresh air.



BUNGALOW THAT'S A BEAUTY. Five large modern rooms, with the features that everyone likes in a bungalow home, are provided in this design. The novel roof and porch treatment add to the appeal of this structure. Living room, dining room, kitchen and two bedrooms and bath are well arranged.



NINE-ROOM HOUSE. For the home owner who wants a house of this size here is an excellent design. While the home is a rectangle, 25 by 41 feet, the hip roof, brick porch and dining room window projection break the straight lines. Six bedrooms provide sleeping accommodations for a large family. This is an ideal farm, town or city home.

AMERICAN BUILDER BUILDING PLANS



Blue Prints of Fine Dutch Colonial

SEVEN-ROOM HOUSE OF EXCEPTIONALLY ATTRACTIVE EXTERIOR AND INTERIOR DESIGN IS SHOWN IN THE PLANS IN THE BLUE PRINT SECTION THAT FOLLOWS—EXTERIOR PHOTOGRAPH ON NEXT PAGE

DUTCH colonial houses are in increasing favor among home builders. The balanced elegance of the exterior and the economy in space in the interior make this style of architecture appealing to the prospective clients of contractors and builders.

An exceptionally fine example of a Dutch colonial is shown on the following pages. The perspective and floor plans are shown on the next page. The perspective and floor plans on the next page and the plans and detail in the blue print section following show the many fine points of this design.

The perspective illustrates the balance of the exterior of this house. The entrance at the side is placed exactly in the center, while to the front and back are duplicate sets of windows. The same effect is secured with the windows of the second floor. Porches with the roofs supported by colonial columns are placed at the front and on the opposite side, and each has a canvas deck. A third deck is over the kitchen entry and pantry. Lattice work between the columns of the porches suggest the added attraction that vines will make to the exterior.

It will be noticed by the floor plan that this house is rectangular in shape, 24 by 43 feet, the straight lines of the structure being broken only by the porches and roof slope on the upper part. While shingle construction is shown, brick or stucco can be substituted.

Interior Plan Has Strong Appeal

Half of the appeal of this design, however, is in the interior. While it is a seven-room house, the rooms are large and conform to modern ideas in every respect. The wide entrance hall, the extensive living room with a den off it, the bright dining room and the good-sized kitchen with the pantry and entry provide just the layout that is desired in an up-to-date house. The two large bedrooms, one at the front and the other at the rear, with canvas decks opening off, are additional attractive features.

The reception hall is 13 by 7 feet, with a large closet beneath the stairway. To the right is the living room extending across the whole front of the house, and to the left is the dining room. The living room is 23 by 14 feet, with a large fireplace in the center. The den is eight and one-half feet square and opens off a

side porch, as well as the living room. The front porch is 20 by 10 feet, slightly narrower than the house.

The dining room is on the corner to the rear and is 14 by 11 feet, 3 inches. A nook contains the china closet, while there are four windows, giving an abundance of light. The kitchen is the same size as the dining room. It will be noticed that the sink, cupboard and work table are ranged along two walls, a window being over the latter. The large pantry at the back contains a work table and shelves, while the ice box is located so that it can be iced from the entry. At the end of the center hall, into which each room on the first floor opens, is a lavatory and toilet.

Two Spacious Bedrooms

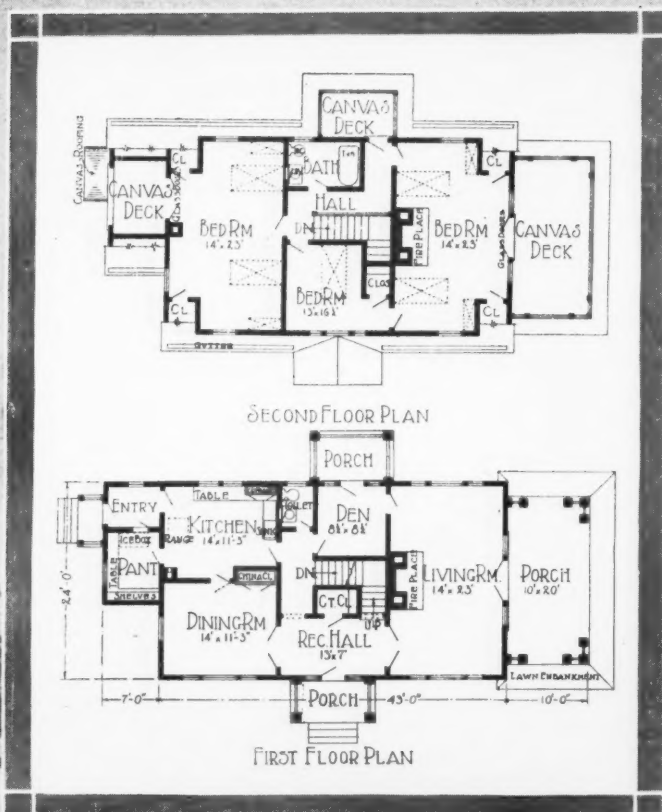
The second-floor rooms are practically duplicates of those on the first floor. The bedroom at the front is the same size as the living room and also has a fire-place. Glazed doors open to the canvas deck of the front porch. The size of the room permits beds on either side of the fire-place. The rear bedroom is a duplicate of that at the front, with the exception that it has no fireplace. It also has the advantage of being so located that the canvas deck can be used as a sleeping porch.

Over the reception hall is a smaller bedroom, 13 by 16 feet, 6 inches, and at the other side is the bathroom. Opening off the hall is the third canvas deck. There are two closets in each of the large bedrooms and one in the smaller bedroom.

The basement extends under the whole of the structure, the inside stairway to it leading from the central hall. The flues are so located that either the front or rear part of the basement can be devoted to the heating plant and fuel storage, and other part to storage rooms for vegetables and the various things that are not in use constantly, such as the lawn mower, garden hose and tools.

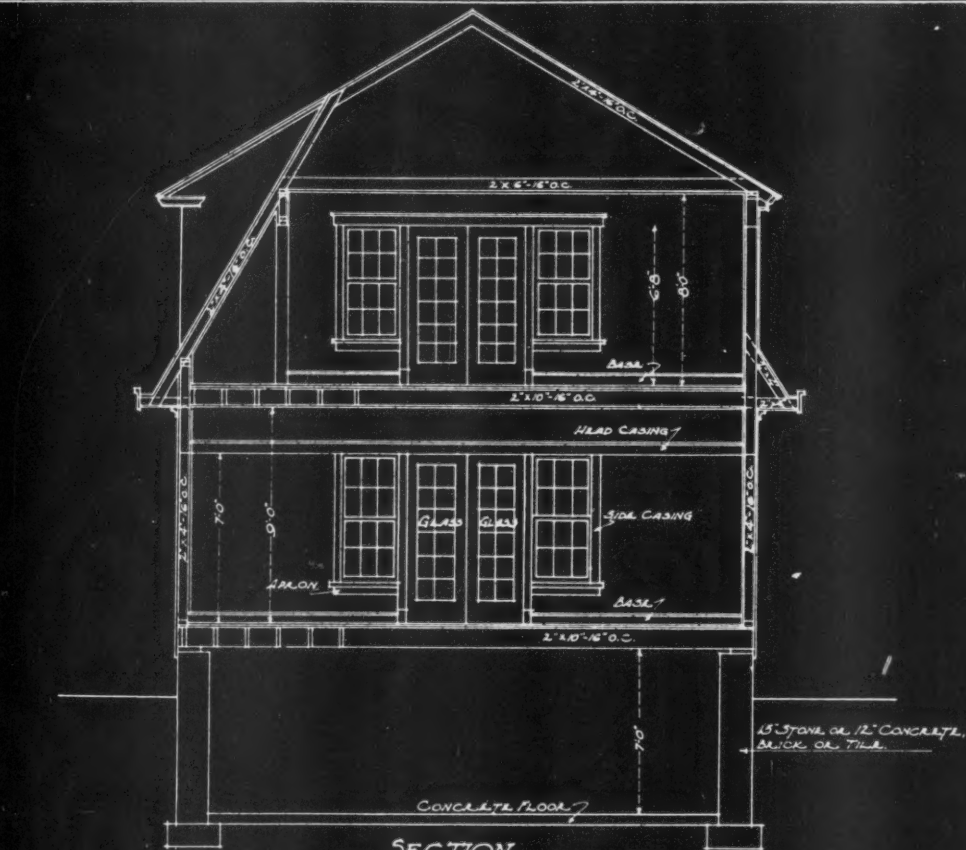
It is just such a design as this that creates the desire in everyone to own a home, and this spring when plans for a house are being discussed this perspective and the floor plans will be additional selling arguments for the builder to use with his prospective clients.

Complete Working Plans of this House are Presented in the Blue Prints Following



AN EXCEPTIONAL DUTCH COLONIAL. This seven-room house, 24 by 43 feet, exclusive of porch projections, is a winner. Combined with an extraordinary attractive exterior, are floor plans that have a strong appeal to those who want a modern home. The large living room and two bedrooms, all 14 by 23 feet, are features. Canvas-decked porch roofs on three sides add to the comfort of the sleeping rooms.

AMERICAN BUILDER BUILDING PLANS



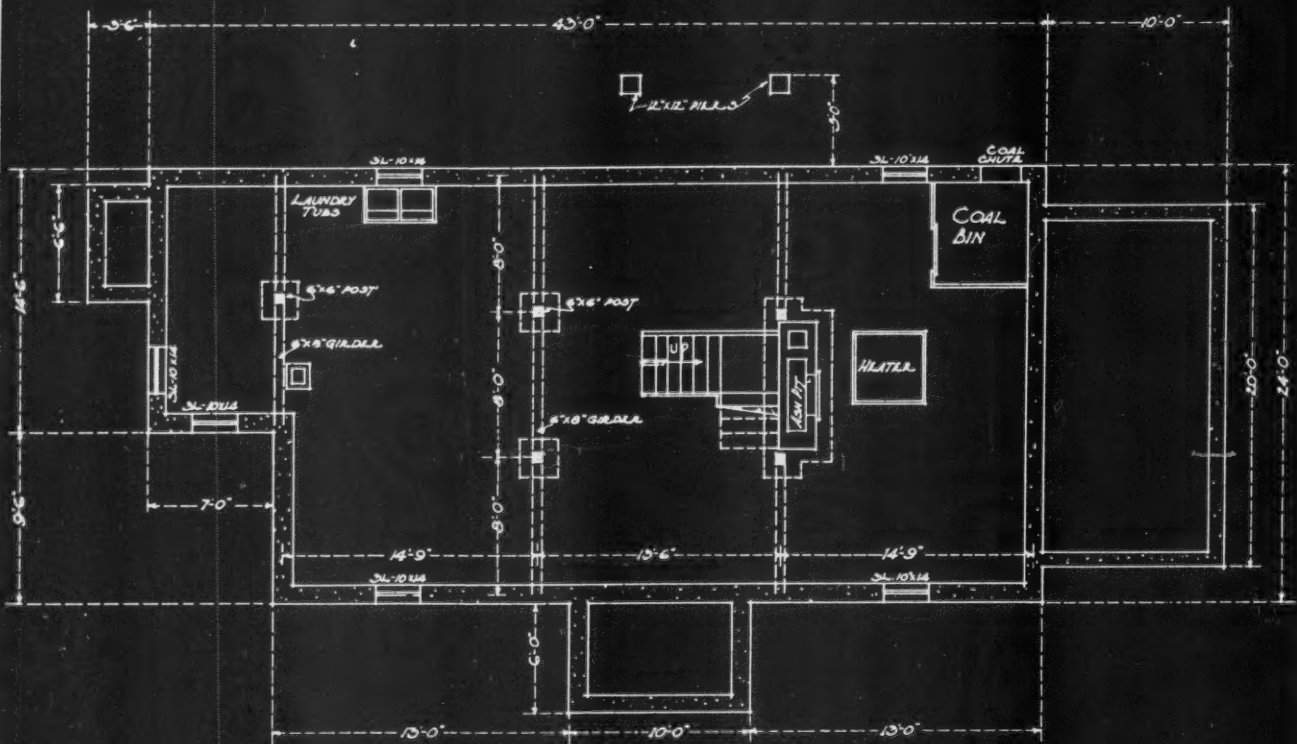
SECTION
SCALE 3/8" = 1'-0"



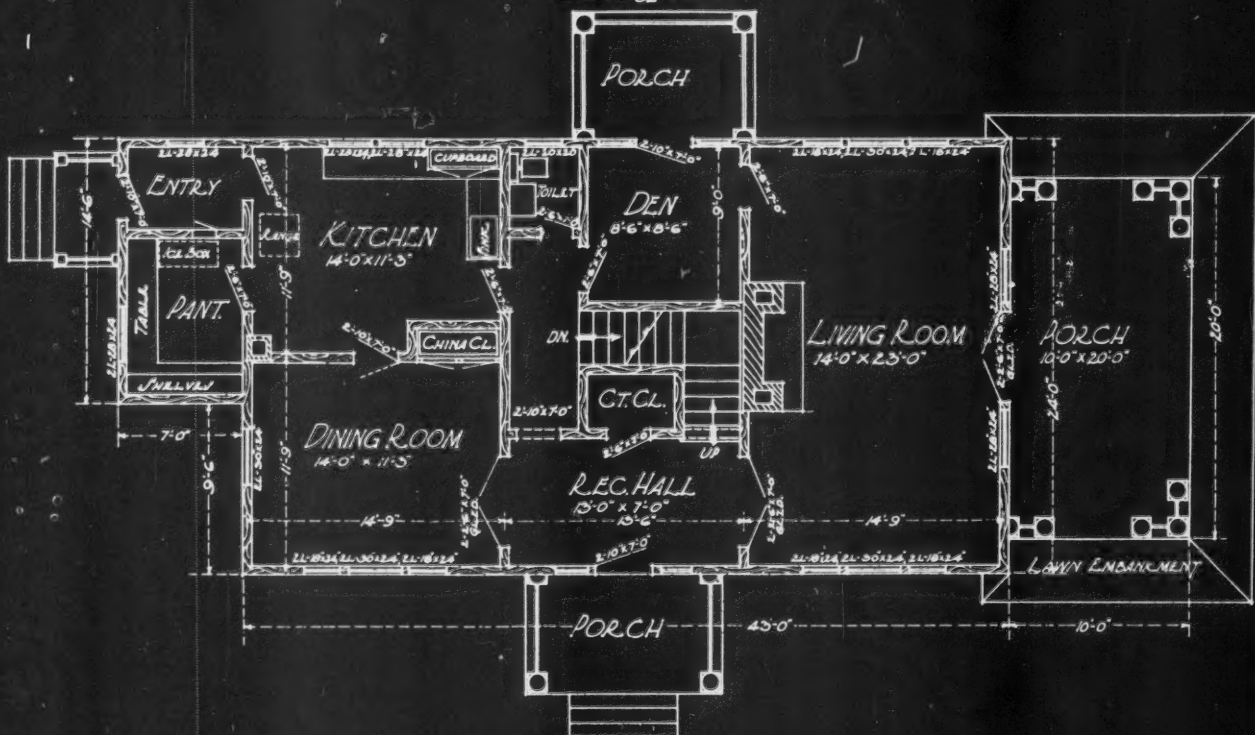
END ELEVATION
SCALE 3/8" = 1'-0"

SEVEN ROOM COLONIAL RESIDENCE SHEET No. 1

AMERICAN BUILDER BUILDING PLANS

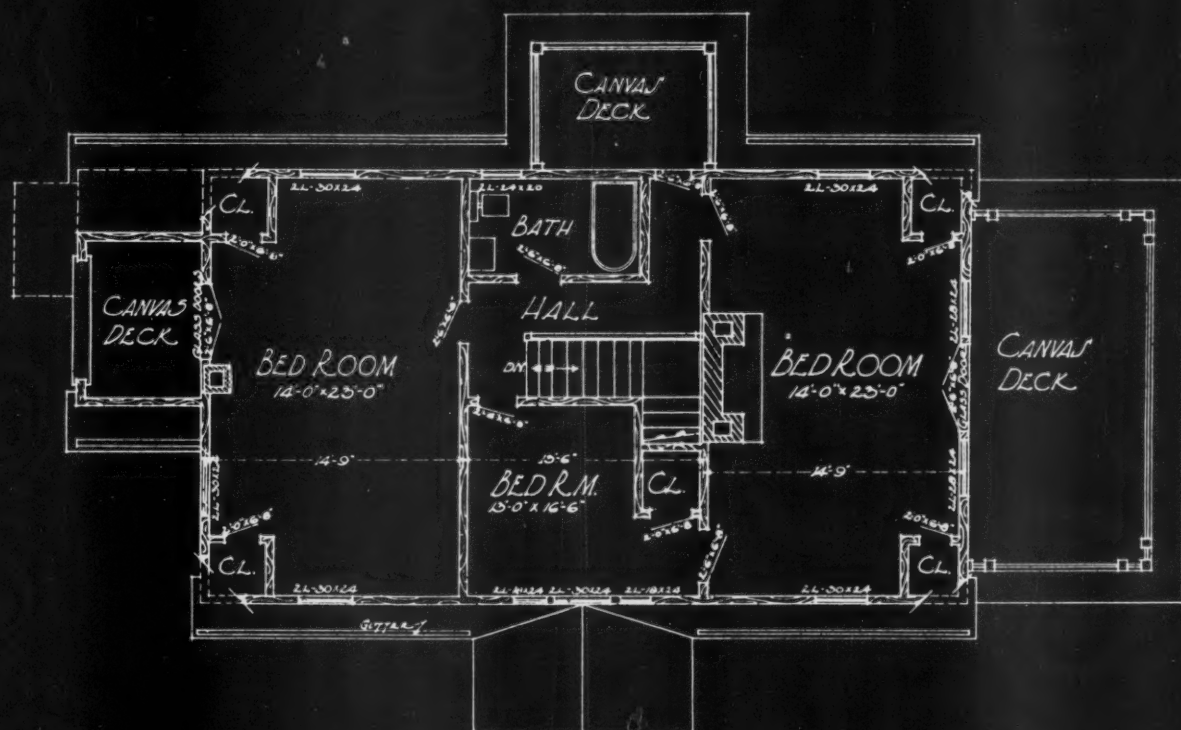
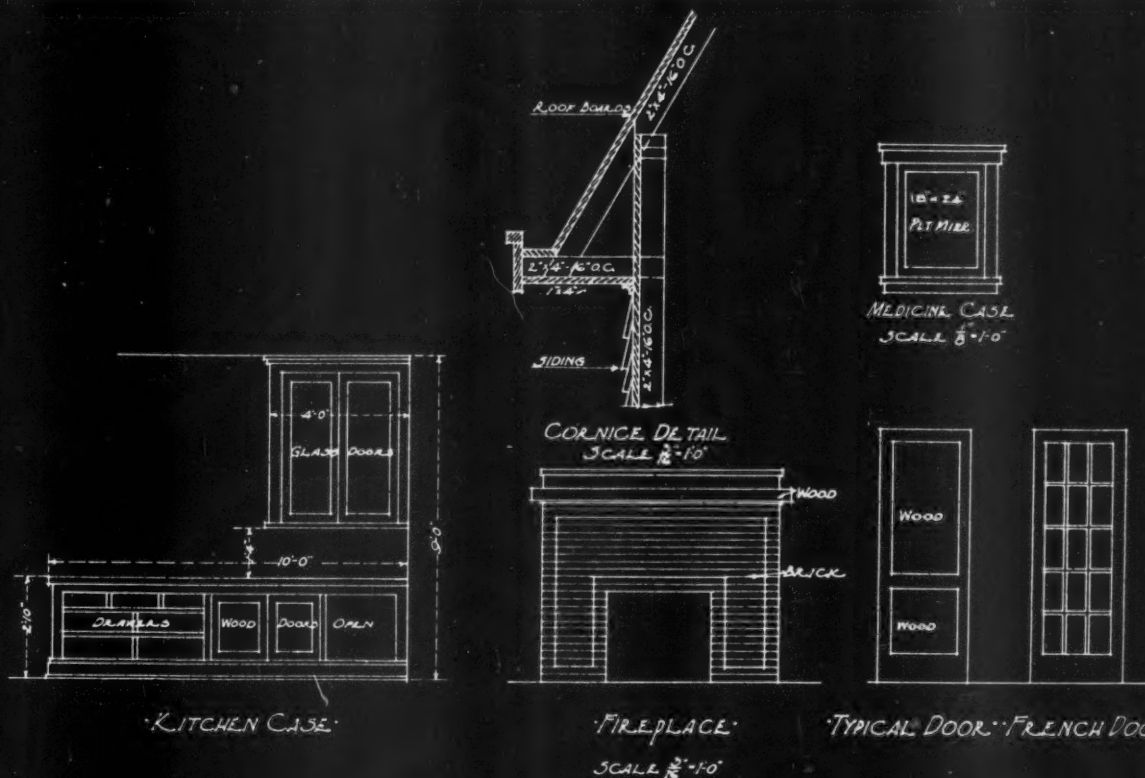


BASEMENT PLAN
SCALE $\frac{1}{8}'' = 1'-0''$



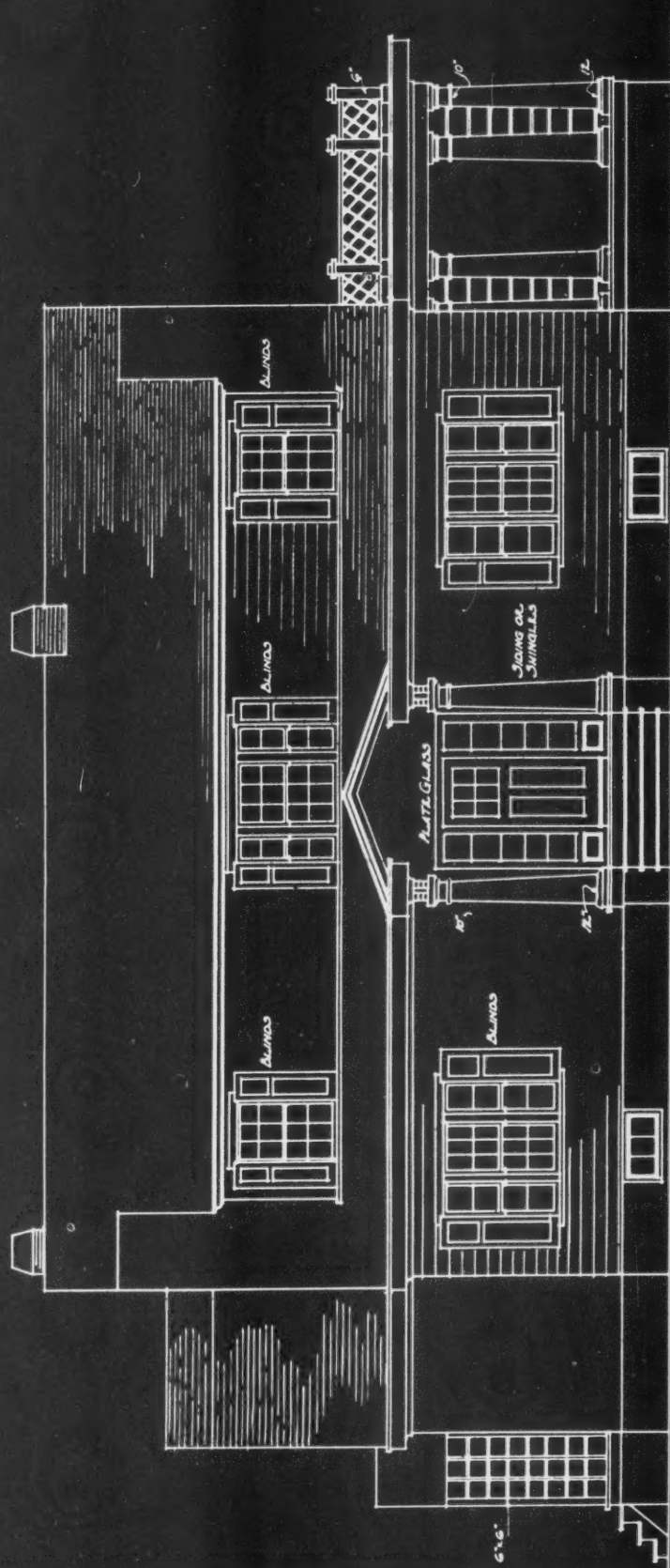
FIRST FLOOR PLAN
SCALE $\frac{1}{8}'' = 1'-0''$

AMERICAN BUILDER BUILDING PLANS



SECOND FLOOR PLAN
SCALE $\frac{1}{8}" = 1'-0"$

AMERICAN BUILDER BUILDING PLANS



FRONT ELEVATION
SCALE 1/8" = 1'-0"

SEVEN ROOM COLONIAL RESIDENCE SHEET No. 4

Huntington, Indiana, Opens Its Second Build-a-Building Campaign

COMMUNITY DEVELOPMENT CLUB, MADE UP OF MEMBERS OF THE BUILDING INDUSTRY, USES PAGE ADVERTISEMENTS URGING THAT NOW IS THE LOGICAL TIME TO BUILD

NOT satisfied with the record made last year, when, in proportion to its population, there were more new houses erected in Huntington, with 20,000 inhabitants, than in any other city in Indiana the Community Development Club is going right ahead telling the readers of the two daily newspapers that the "logical time to build is now!" The first advertisement, which occupied a page in the Huntington newspapers, is reduced in the accompanying illustration.

The Huntington, Ind., plan for community building development was explained in the March issue of the AMERICAN BUILDER in a letter from J. M. Triggs, president of the Majestic Company, of that city. The club was formed about a year ago by several progressive builders and lumber and material dealers. It took into membership hardware dealers, plumbers, electrical contractors, sheet metal contractors, furnace dealers and furniture dealers; in fact, any class of business men in Huntington who were interested in building. This year a reorganization has been effected and real estate men and every class of workers in the building industry have been included.

How Funds Are Secured

Funds for the advertising campaign are secured by voluntary subscriptions, which cannot be more than \$25 nor less than \$10. In this way between \$500 and \$600 has been raised and all of it will be spent in advertising. It will be noted that no individual or firm, or type of building or building material is mentioned, the advertisement merely being a boost for building.

The advertising campaign, as outlined by Mr. Triggs, contemplates the use of a page weekly during the spring months in both the Huntington daily newspapers. Some exceptionally strong copy has been prepared for these advertisements, as will be noted by the one shown here.

Mr. Triggs believes that such a

co-operative plan as this will go far toward bringing about a quick resumption of building in any city where it is used. He also volunteers to furnish copies of the advertisements used in the past and those used this year as fast as they appear to any one interested, together with information regarding the plan.

Already this missionary work is bringing results, which under present conditions should be far in excess of those obtained last year. And such co-operation as this shows that the members of the building industry in Huntington and those interested in building are progressive business men.

THE HUNTINGTON HERALD

THE LOGICAL TIME



To Build Is Now!

Authorities agree it is folly to hold off for lower building prices

Do Not Hold Huntington Back

Duty of Everyone is to go Ahead

Indications are that there is going to be considerable activity in the building line this year, not only among farmers but in the cities as well. The one feature which seems to have a tendency to make many hesitate is the idea that appears to have gained prevalence in many quarters that prices on lumber, as well as other building materials, are going to decline. This does not seem likely. It is a foregone conclusion that manufacturers, owing to the continued cost of living expenses, cannot afford to even think of reducing wages, and as long as they have to pay high prices for labor, lumber and other building materials can not decline to any considerable degree.

A tendency on the part of business men to hold back new enterprises, in expectation of lower commodity prices and wages, is a mistake, in the opinion of Joseph E. Ott, vice-president and acting head of the Central Trust Company of Illinois.

"If we were all to hold back, awaiting lower prices, we should produce conditions of a sort that would benefit no one. It is the duty of business to go ahead and seize the opportunities now existing. If a manufacturer were to defer building needed additions to his plant, in hope of securing a lower construction cost at some indefinite time in the future, he probably would lose more profits on goods which he might have been producing and selling in the meantime than he will save on cheaper construction costs."

The same logic applies to any one wishing to build a home. Indications are that it will take from three to five years for prices to re-adjust themselves and anyone wishing or needing a home or other building will make a wise step by having their plans drawn and contract let NOW. They will enjoy it's comforts and profit in their investment during the time the others are hesitating to build and facing the uncertainty of the future.

Community Development Club

The Huntington, Ind., Community Development Club Uses Page Space in the Local Newspapers to Promote Building. Here is a Reproduction of a Recent Ad.

Profit in Remodeling Store Fronts

BUILDERS CAN SECURE MUCH WORK TRANSFORMING OLD, INEFFICIENT BUSINESS HOUSES INTO MODERN SALES-INVITING PLACES BY INSTALLING NEW DISPLAY WINDOWS

TRANSFORMING "scare-away" business exteriors of stores into business-inviting fronts is a recent development of the building business that is bringing excellent returns to contractors. These jobs not only provide the builder with additional work, but because of the excellent designs and newest methods of framing and holding plate glass that store front manufacturers have originated, this work can be given the store owner economically and profitably by the contractor.

It being a physical impossibility to bring the mountain to Mohammed, history reveals, Mohammed went to the mountain. Which teaches that when a thing is wanted, and it does not come, the way to get it is to go after it. Building jobs during the last couple of years have been much like Mohammed's mountain. They have been content to stay in the prospective builder's mind. The way to get them is to go after them.

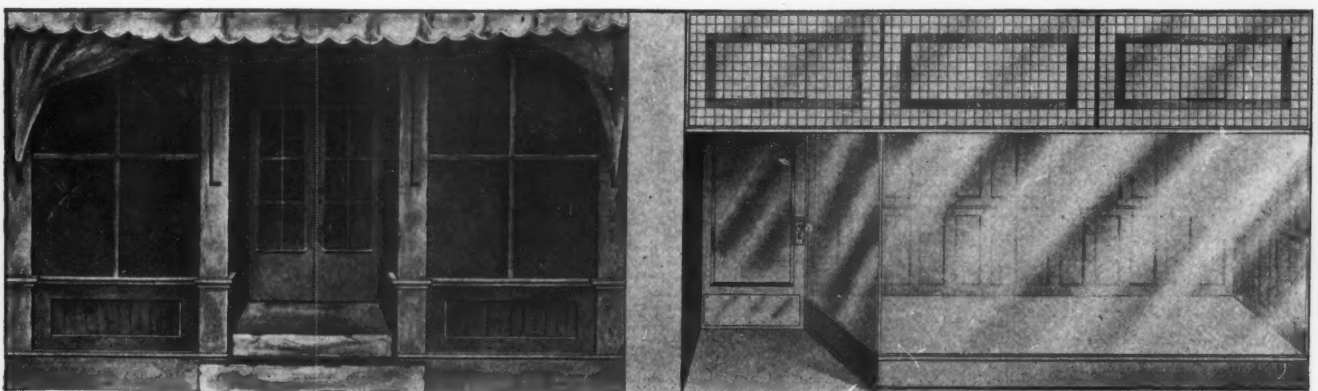
To find store front remodeling jobs is an easy matter. There are thousands of business buildings in the United States that are much like Henry Ward Beecher's famous watch. The battered exteriors fail to impress or give even a hint of the value that is inside. The old-fashioned store fronts scare business away, rather than be magnets that draw business to them.

The owner of every such store is a likely prospect for a profitable remodeling job. He knows, if he is at all progressive and alive to present-day conditions,

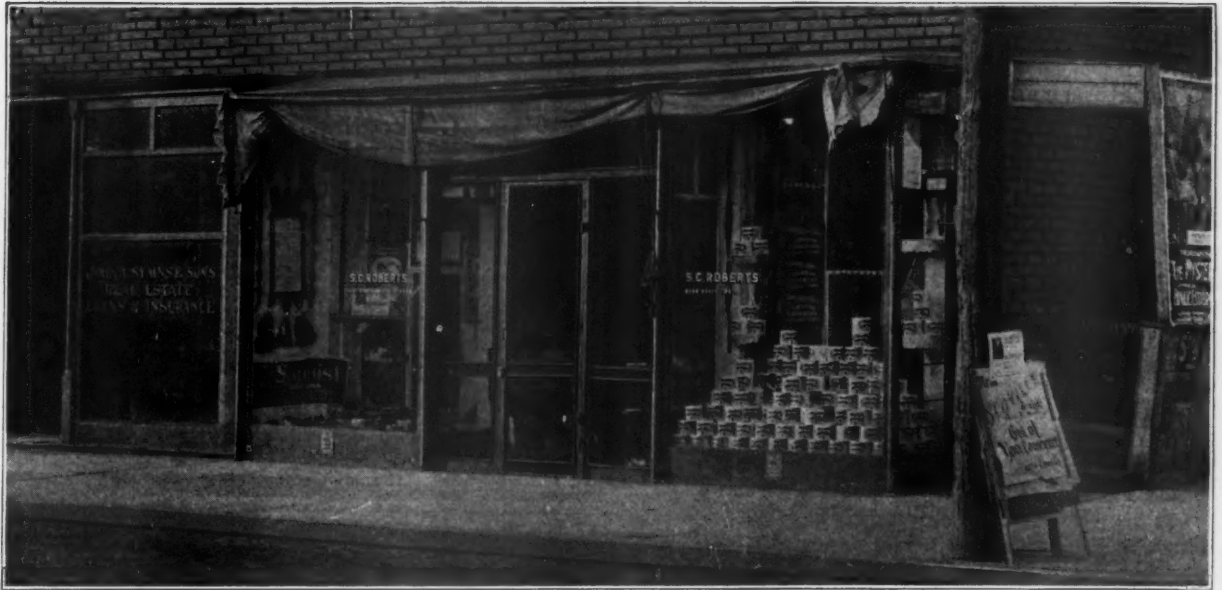


The Page & Shaw Co., Philadelphia, spent \$25,000 on this elaborate bronze and ornamental glass store front. The ornamental band above the windows was in the original store, but the grill, bronze ceiling over the entrance, bronze door and ornamental glass panels inside all were recently put in. These elaborate fronts are favored by specialty shops in the larger cities.

that little success can be obtained in selling merchandise of any kind unless the exterior of his place is inviting. Few, however, realize that it is not necessary to close up the store while the front is being torn out and rebuilt. But when they are told and con-



There is a strong selling talk in this picture, which shows what a new front will do for an old store. By moving the entrance and eliminating the obstructions in the show windows, the owner has an up-to-date and attractive, trade-inviting place of business.



The Front of This Building Did Not Do the Structure Justice, So the Owner Transformed It as Is Shown in the Illustration Below.

vinced that they can continue to do business while the remodeling operations are in progress they are interested.

The Advantages of a Modern Front

Selling store front remodeling requires a knowledge of the advantages of a new store front, if the salesman is to be successful. And it is to give the readers of the AMERICAN BUILDER ideas along this line that this article is intended.

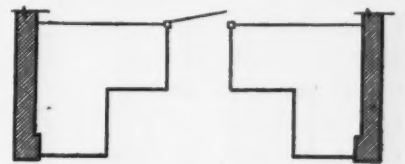
Values of business property are determined by the

number of people who daily pass that property. That is a commonly-known fact, altho it is not usually considered from that viewpoint. The more congested section of a city is usually the business section. It is here that the buyers of a city or town gather, either for the purpose of patronizing

the stores or to perform their daily work. This traffic, or the bringing together of great numbers of people, makes the property valuable for business purposes.



A Simple Store Front Design.

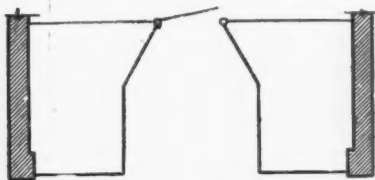


A Wide Lobby and Narrow Entrance.



Here Is the Same Brick Building After the Contractor Put in a New Front. It Will Be Noticed That a Window Was Added at the Side and That Brick Columns Set Off the Windows and Give the Structure a More Substantial Look.

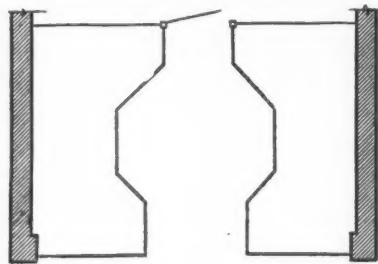
An interesting fact in this connection is that the operators of chain stores, selling drugs, tobaccos and inexpensive merchandise of all kinds, have made an



A Popular Method of Placing the Windows.

exact science of determining the amount of traffic. Before a store under consideration is rented, an accurate count is made of the number of people

who pass that location during a day and at certain hours in the day. They have a fixed idea of the value of each square foot of floor space based on the number of people who pass that store. This per square foot rental value is based on window space more than anything else, for to meet them the windows are practically the only advertising method they use. The location determined upon, the lease usually is secured because an offer is made that oftentimes is far in excess of what the present tenant is paying or is willing to pay. And the first thing that is done when the lease is secured is to remodel the front so that the merchandise to be sold can be displayed in the most advantageous manner, the business bringing value of the window having also been made an exact science. It has been demonstrated that the windows are the store's best salesmen.



Utilization Every Foot of the Space for Display Windows.



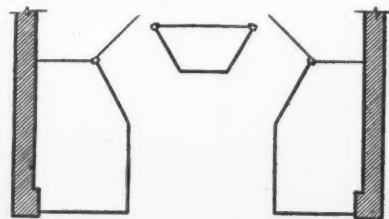
The Transformation a New Front, of Copper Construction, Made in the Store of Wm. Gurd & Co., London, Ont.

The three basic elements of making a sale are, first, to attract the attention of the prospect; second, to develop that attention into an interest in the merchandise to be sold, and, third, to turn that interest into a desire to possess. Then the sale is easy.

There is no place in the store where the attention of so many people can be called to what the owner has for sale as in the windows. Here, in an attractive, well-lighted window, the merchandise can be shown to much greater advantage than in the interior. It's a case of "stop, look and buy."

Selling the Store Owner

Impressing these facts on the owner of a store, the front of which is not so constructed as to permit the best display of the merchandise in stock, and which does not admit the greatest amount of light possible, will get profitable remodeling jobs.



A Store Front That Has a Double Entrance and Central Display Case.



That There Was a Considerable Waste of Valuable Space at the Front of the Wm. Gurd & Co. Store, London, Ont., Will Be Seen in This Illustration, Taken Before the New Copper Front, Shown in Another Illustration, Was Installed.

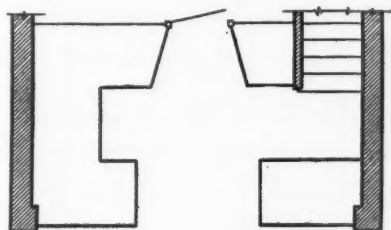
Some ideas of what new fronts will do for old stores are shown in the accompanying illustrations. Builders have taken the materials supplied by manufacturers, who make a specialty of store fronts, and have remade these business places so that they appear to be new and give the store owners a chance to let the people who pass know what is for sale inside.

While glass is the principal material used, what makes for success in remodeling the store front is the method by which the glass is held in place. It must be securely held, and at the same time have as little



After the Appeldoorn Shoe Store Was Remodeled. Wide Expanses of Windows, the Open Space That Leads to the Entrance Door and the Attractive Front All Mark This as a Progressive Establishment.

obstruction to a view of the interior of the windows as possible. Settings that will permit good ventilation and drainage are important. Also there must be allowance for contraction and expansion of the glass. Tightly held glass will break under certain weather



A Rather Elaborate Store Front Design.

conditions; loosely held glass will rattle and be unsatisfactory.

These methods of construction have been greatly improved recently and working plans that the manufacturers

provide will help the builder solve any and all problems that he may come in contact with.

Working up remodeling jobs almost always means more to the builder than merely changing the front of the store. The installation of the front and the show windows usually requires that a change be made in

the interior of the store. Walls are removed to give freer movement among the counters, new ceilings and floors are installed, and unsightly posts are either taken out or boxed so that they will conform to the modern appearance of the store. All of these things mean work and profit for the builder.

How many different types of store front designs there are is shown by the line drawings that accompany this article. Different conditions require different treatment, but from the six here illustrated,

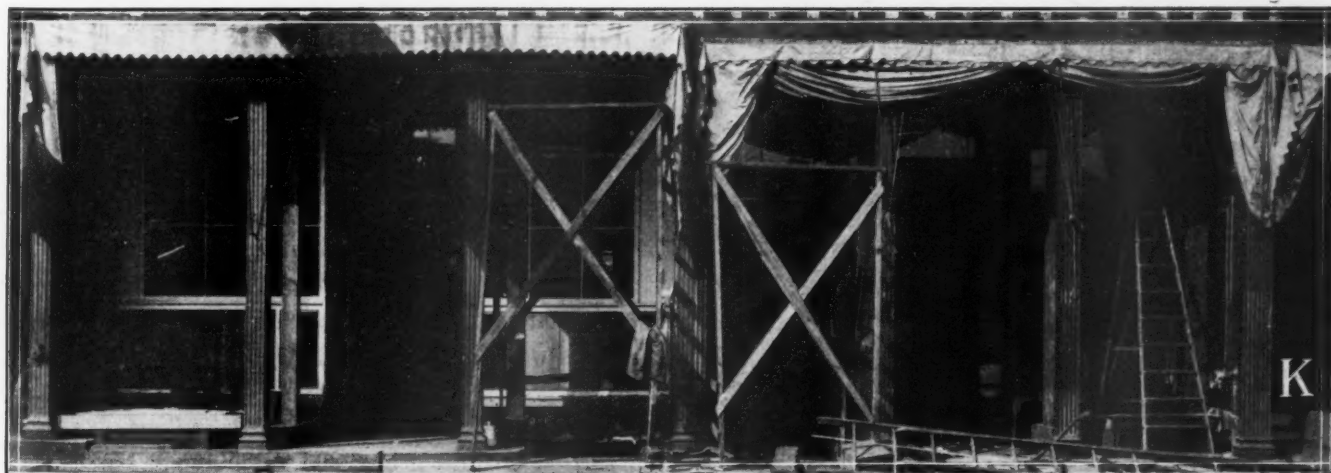


How a Jewelry Store Was Transformed by a New Front.

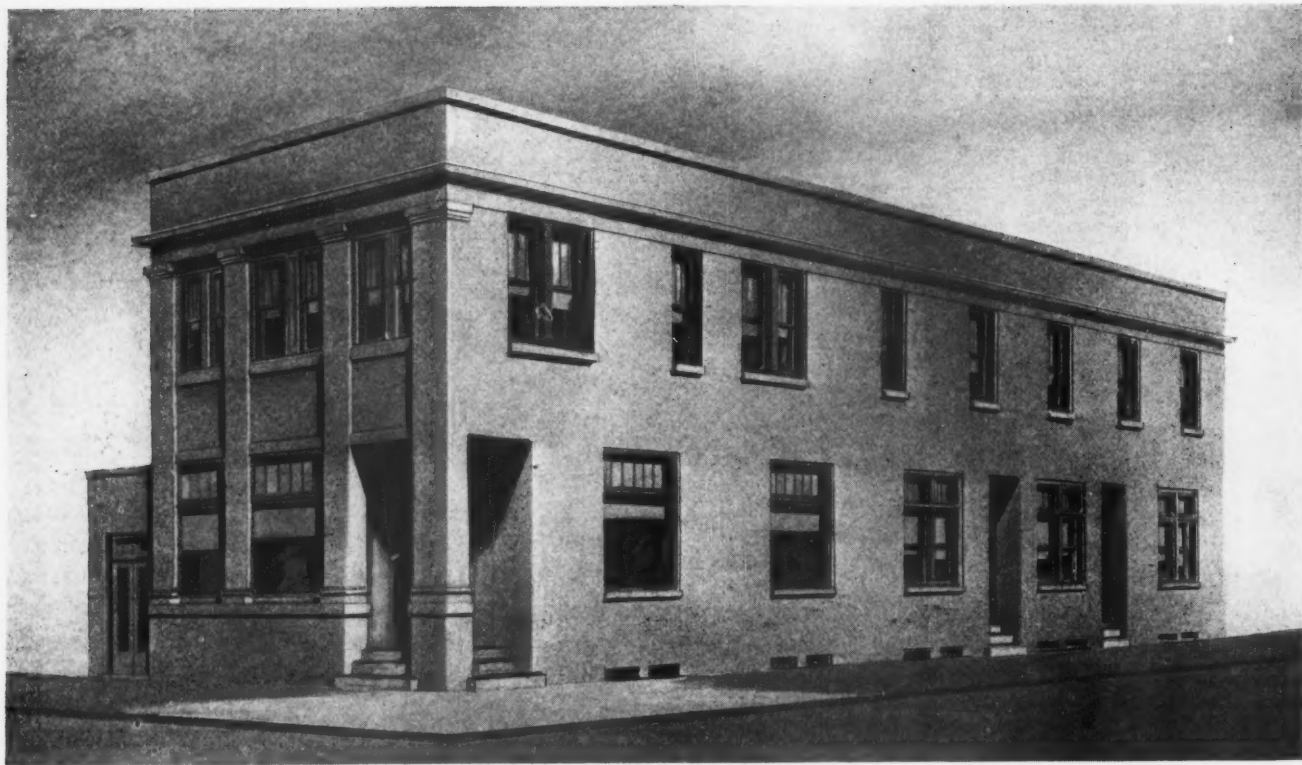


one that will suit the ideas of the store owner can be found.

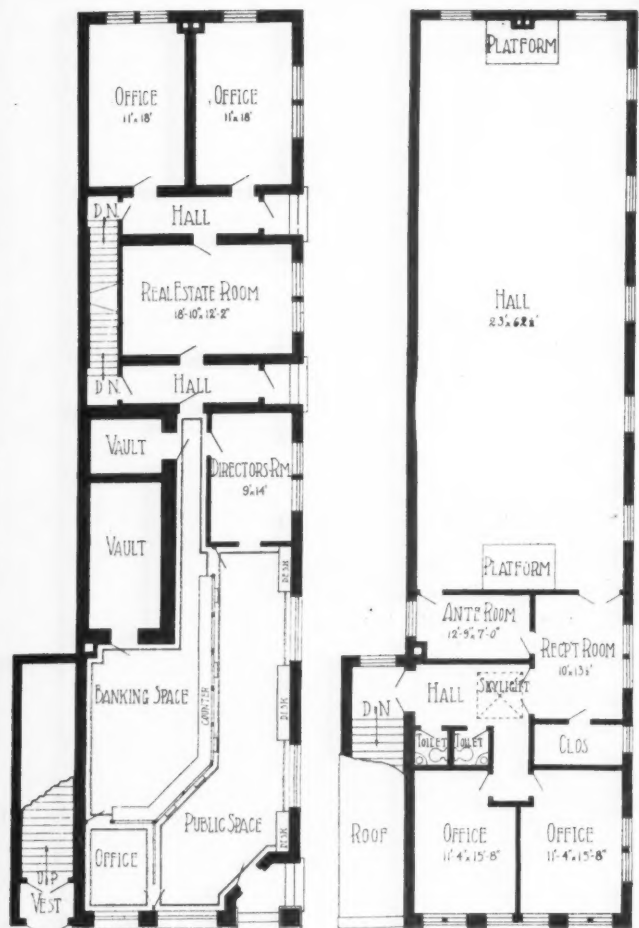
Getting in touch with the owners of business buildings that need remodeling and a discussion of the subject with them will bring to the builders many good remodeling jobs.



Mr. Appeldoorn's Shoe Store Before It Was Transformed With a New Front. The Display Windows Were So Distributed That the Shoes Shown Made Little Impression.



Bank Building with Public Hall on Second Floor. Substantiality Is One of the Best Requisites in the Appearance of a Bank Building. This Is One of the Good Features of This Design.



First Floor Plan.

Second Floor Plan.

Bank Building With Public Hall

THE bankers of the country have enlisted wholeheartedly in the "Build a Building" movement, and those institutions that have been planning a new building are ready now to go ahead. Herewith is illustrated with perspective and floor plans a building that combines a home for a banking business and a public hall. The dimensions of the building are 25 by 100 feet. The entrance to the bank is on the corner and to the upper floor at the center of the building. This design combines substantiality with an economical use of floor space. It has the added advantage of being a rent producer, a feature few bank building designs have.



Another Model School Building

SCHOOL building construction is going ahead rapidly and school boards everywhere are preparing to erect new buildings. On the following page is a design that will meet the needs of many school districts. The architect is G. W. Ashby, Chicago.

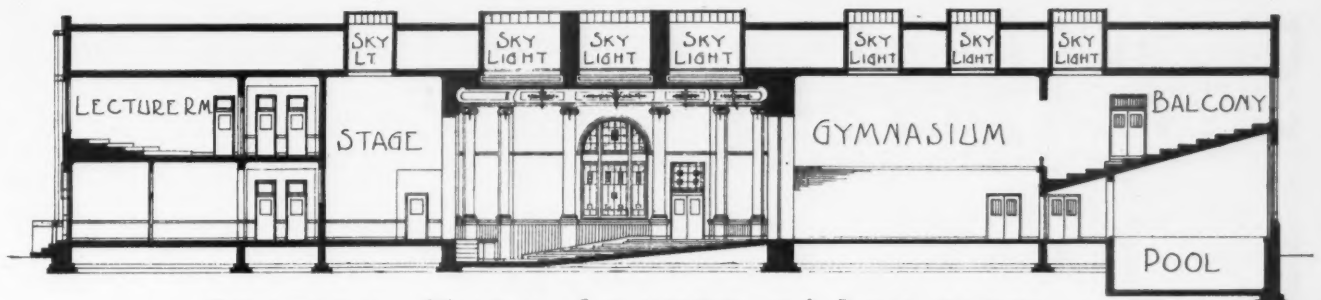
A novel feature of this plan is the arrangement of the assembly hall and gymnasium, which can be thrown together to make a large auditorium. The balcony of the gymnasium becomes the balcony of the assembly hall. This feature is shown on both the floor plan and the section thru the center of the building.



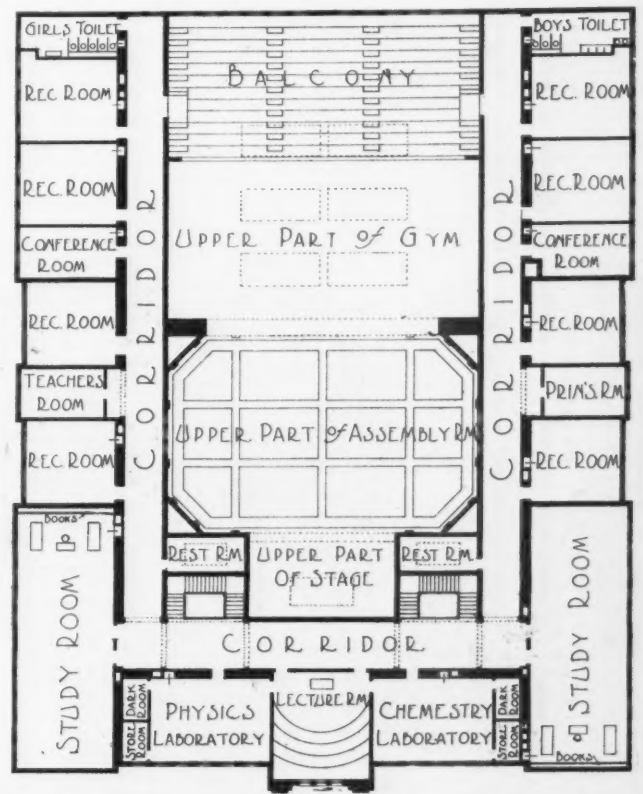
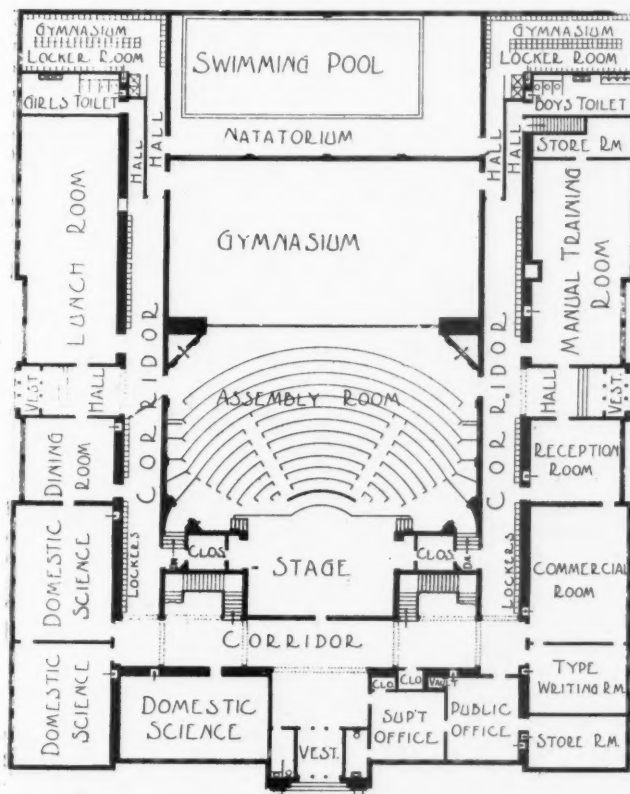
FRONT ELEVATION



SIDE ELEVATION



SECTION THRU CENTER OF BUILDING



Plan of a Rather Large Model School Building, a Feature of Which Is the Arrangement of the Assembly Room and Gymnasium, Which Can be Thrown Together and Will Accommodate a Large Gathering. The Balcony of the Gymnasium, Over the Swimming Pool, Adds to the Capacity. Designed by G. W. Ashby, Architect, Chicago.

A Small Inexpensive Church

HERE IS A DESIGN FOR A BUILDING WITH AN AUDITORIUM SEATING 140 AND A GOOD-SIZED LECTURE OR SUNDAY SCHOOL ROOM

CHURCH construction is one of the projects the government is urging in its campaign to bring about an immediate resumption of building activities. There are many small congregations that will heed this appeal and church building will undoubtedly take rank with school and other public and semi-public building this spring.

Herewith is illustrated with perspective and floor plan a design for a small church that can be constructed economically. It is of wood construction on a stone foundation. The main part of the building is devoted to the auditorium and the L-part to the entrance hall, a rest room and a lecture or Sunday school room.

This is the type of building that will appeal to the congregations in the smaller communities. It not only provides a place for the church services, but a lecture room for community meetings of all kinds.

Builders this year will have many jobs of this kind. While

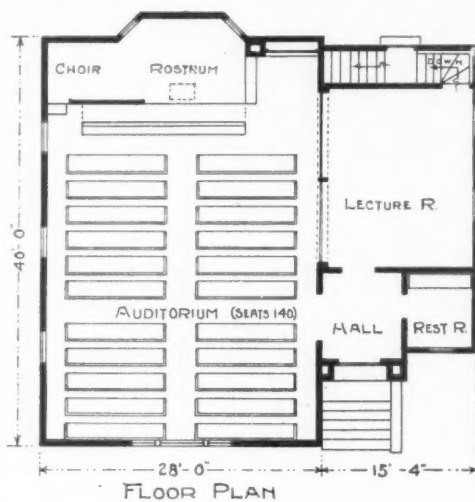
this plan may not be exactly what the building committees of some of the congregations have in mind, it is a good average type of church building.



A Small Brick Library Building

ON the following page are front and side elevations, first floor and basement plans for a small brick library building. Libraries, as well as churches, are building projects the government is urging. This plan is a good one and will meet with the approval of many library boards.

As will be seen by the plans and elevations, this library design will supply the needs of the smaller communities, many of which now are planning to build. The contractors will be called on to submit such plans as these. It was designed by Architect G. W. Ashby, of Chicago, and contains many excellent features. Of brick construction, the building is substantial and presents an attractive appearance, such as every library should have.

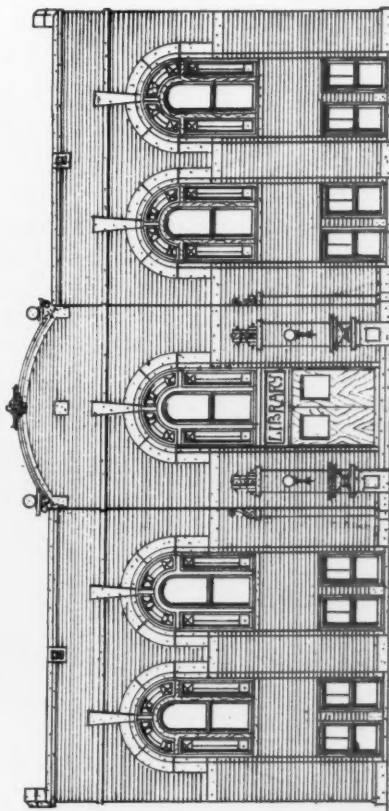


Arrangement of Church to Seat 140.

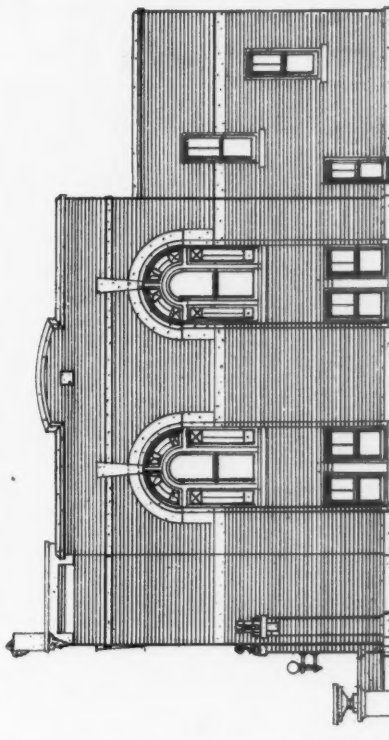


Very Neat Small Church with Auditorium Seating 140. A Satisfactory Design That Can be Built Economically.

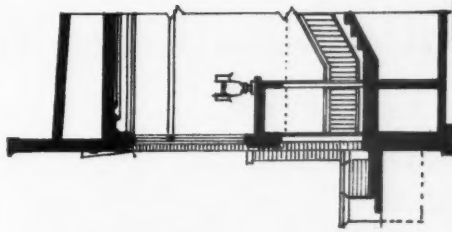
SMALL BRICK LIBRARY BUILDING



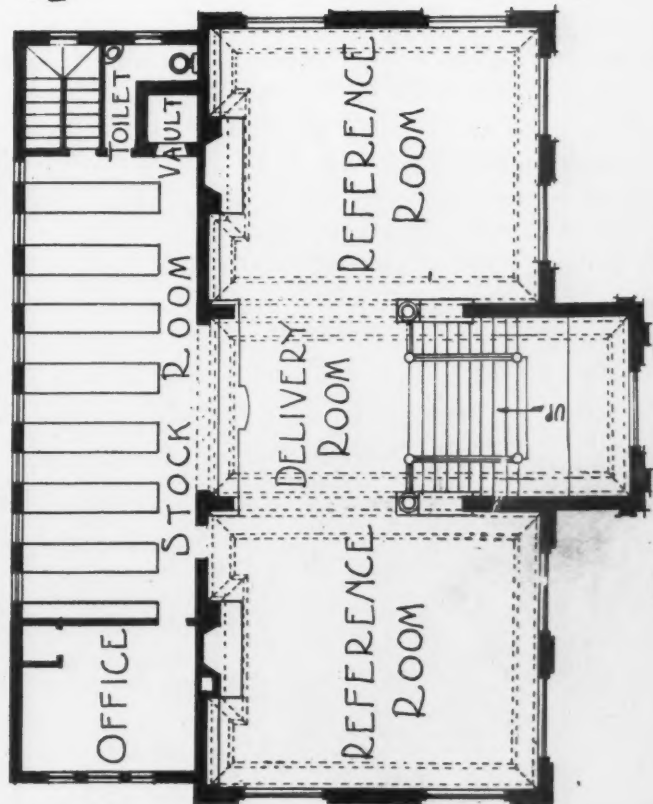
FRONT ELEVATION



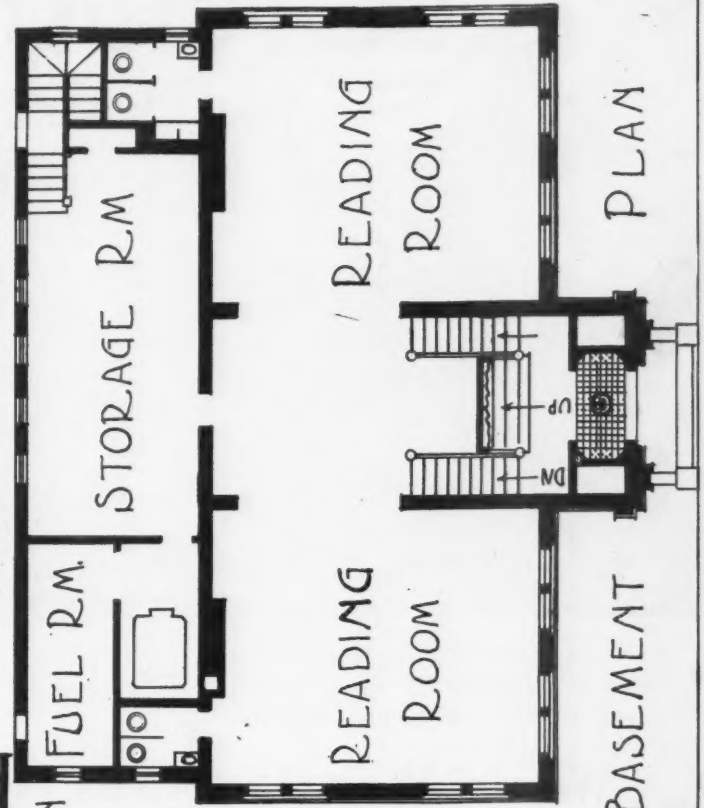
SIDE ELEVATION



SECTION



FLOOR PLAN



BASEMENT PLAN

STRUCTURAL TILE WORK

for Houses, Farm Buildings,
Stores, Garages, etc.

Conducted by
H. S. BRIGHTLY,
Hollow Building Tile Con-
struction Engineer



If you will send us a plan or sketch of the building you are thinking of erecting, Mr. Brightly will tell you about the sizes, shapes and quantities of hollow building tile that will best serve your requirements.—EDITOR.

World War Develops Hollow Building Tile as a National Necessity

OLD IDEAS OF SO-CALLED HIGH COST OF TILE CONSTRUCTION DISPELLED BY BROADER KNOWLEDGE OF ITS USE IN VARIED CLASSES OF BUILDINGS

by H. S. Brightly

ALTHO the United States Government did an enormous amount of construction work during the nineteen months this country was at war, it was not until near the finish that the program was well under way. The first building, of necessity, was not much more than temporary. But at the finish permanent structures were being erected.

As will be seen by the accompanying illustrations, hollow building tile was being extensively used in the

Government's housing projects, many of which were not suspended by the signing of the armistice.

Soon after the United States entered the war, it became evident that construction work of a very varied nature and on an enormous scale would have to be undertaken and speedily put thru to completion. The building of the cantonments and training camps was only a beginning of the enormous amount of construction work necessary. At the beginning numerous sur-



General View of the Dormitories for Government Clerks at Washington, D. C. This is one of the Government's construction projects in which hollow building tile was used.



Hollow Tile Houses for the United States Shipping Board at "Sun Village," Chester, Pa.

veys were made to ascertain the availability of the different structural materials and the principal sources of supply in relation to shipping conditions and the destinations at which they were required. These questions exerted a large measure of influence in determining the materials used in many cases, owing to the urgency of the railroad situation at this time, the heavy tax on railroad facilities in connection with the mobilization and supply of the army at the various training centers, and the shipment of needed war material to our allies.

Permanent materials were therefore not used as extensively as they might have been had the conditions been more nearly normal and consequently more favorable. Disregarding all this, however, clay products, and especially hollow building tile, made a remarkable showing. Used in a small way at first, its adaptability, the ease and speed with which it could be erected, the low moisture content and consequent quick drying out of the walls and its fire-resistive qualities, all tended to foster its more extensive use. Also, the fact that the hollow building tile industry was already reorganized enabling the manufacturers to give prompt and efficient service in placing their factories at the disposal of the Government's requirements, in no small way assisted in this matter.

Hollow Tile Well Adapted to War Building Needs

The units in which this material is manufactured were readily adaptable to the Government's requirements, simplification and standardization of the structures being carried out as far as possible, and hollow tile being the lightest form of masonry wall construction made it possible to effect the needed

conservation of tonnage shipped over the railroads. Furthermore, the carpentry trades had already been severely overtaxed and the bricklaying organizations wherever called upon were in a position to supply an ample quantity of skilled labor, which greatly relieved the Government's problems in many instances. This further tended toward a more equal distribution of the trades employed.

The merit of this material for housing was at an early stage recognized by the housing section of the United States Shipping Board, as many of the architects employed on this work were already familiar with its advantages in their private practice. It was therefore extensively used in the housing projects of this department, some of the more important villages being built almost exclusively of hollow building tile. Elsewhere it was used as a backing for face brick, and even in the frame houses it was used for party and division walls in the group-housing on account of its fire-resistive qualities.

The Housing Bureau of the Department of Labor also recognized the many advantages of this material and used a great quantity in various projects,

(Continued to page 146.)



Hollow Tile Houses for the United States Shipping Board at Dundalk, Md., for Workers in the Bethlehem Steel Co. Plant.

Hollow Clay Building Tile Coming Into Wide Use as a Farm Building Material

By C. L. Rorick

IN pioneer days there may have been circumstances and conditions which justified a man in erecting temporary and even make-shift buildings in which to house cheap livestock and cheap hay and grain, produced on equally cheap land. There even may have been conditions under which he was justified in not providing any buildings at all in which to house them. But those times and those conditions are nothing more than memories to the older generation of our farmers, and nothing more than traditions to the present generation. They have nothing to do with the farming business of today. In fact, the man of today who would allow his stock and the products of his fields to endure the onslaughts of the weather and of the cold without the protection of good buildings would go broke in a very short time.

The average prices which we can get these years for our stock, our hay and our grain, are so high that we must save every bit of them to sell we possibly can. We cannot afford to let any of our stock die, or any of our hay and grain be destroyed. They cost us too much to produce. We can get too much for them when we sell. We must save all of each. Our fathers may have seen the time when the cost of a good build-

ing was so high, when compared to the value of the stock or grain it would house, that they were justified in hesitating about spending the money necessary to erect a good building. But, on the contrary, we are living in a time when the price of livestock and of grain is so high, when compared to the cost of building necessary to house it, that we can't afford to build anything less than the best and the most serviceable buildings to be had to house them.

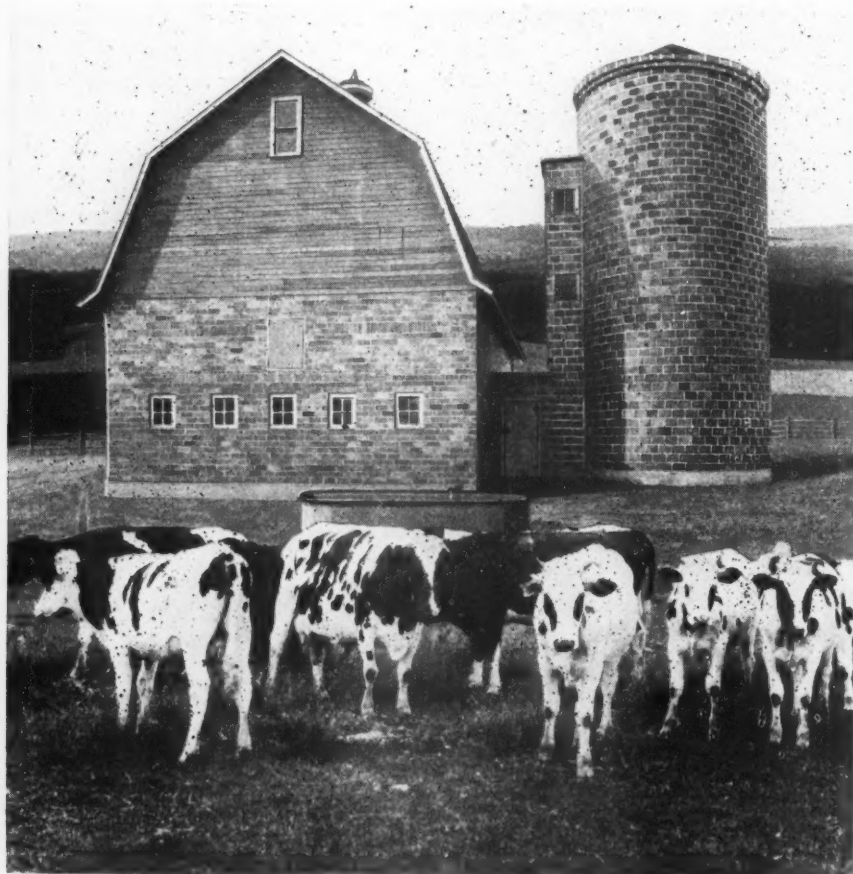
Permanent farm buildings, constructed of hollow building tile increase the production of livestock from our farms by saving animals from death, and by reducing the amount of feed necessary to bring them to prime market condition. They increase the nation's available supply of grain and forage by saving it from destruction and damage.

The true measure of the cost of a thing is not in money. It is in terms of the thing which we ourselves produce; the thing which is actually exchanged for the things we buy, money being simply the medium by which the exchange is made. Measured in this way, we never could build as cheaply as we can build now. Never before did it take so few farm animals, or so few bushels of grain, to pay for any farm building of a given size or quality as it takes now.

Since you must build some way or other, it is more desirable to build well than it ever was before. If you construct a building of hollow clay building tile you will never have to rebuild it. It will go on serving generation after generation of your children and of their children. It will continue to serve these succeeding generations just as well as it serves you now while it is new. While it is permanent, it is not unchangeable. Alterations may be made, or additions may be built on, as freely as with any other building material. When these alterations or additions are complete the walls worked on will be as tight, serviceable and durable as before.

Your Buildings Will Be Fire Proof

The annual fire loss of this country will average over \$150,000,000 as is shown by reports made to the fire officials and fire insurance companies of the nation. A careful



Cows Like These Deserve the Weather-Tight, Permanent Home of Impervious Tile and the Fresh Feed the Silo Provides.

examination of the records of these fires shows that over one-half of them are preventable, a loss which is unnecessary. These records also show that over one-half of these preventable fires would have been prevented simply if the building had been built of clay tile. In most of the fires which happen, both the preventable and the unpreventable, the loss would have been confined to the contents of the building alone had they been built of tile.

Among the various preventable causes of fire loss, the principal one is what the insurance companies call "exposure." This means that the damaged building was not fire-proof and was located close enough to the source of the fire for it to spread to the building. This danger is entirely done away with when you build of tile. You can build a fierce fire right up against a wall built of tile and the wall will not catch fire, and the fire will not penetrate thru it or damage it in any way. Many instances are known where a wood building caught on fire and burned to the ground without damaging the tile building at all.

On a farm, the actual destruction represents considerably less than one-half of the damage done by fire. Even greater than this actual destruction is the damage which comes from the inconvenience, and the

interference with the year's plans and work, which result from the fire and the destruction caused by it. This is damage and actual loss to the farmer which is not covered by any insurance which he is able to carry. The only protection against loss of this kind which you can get is in the form of fire prevention

rather than fire insurance. The best fire prevention which you can have is to construct your building of hollow clay building tile.

Your Buildings Will Be Rat Proof

Just think of it, the rats of America do more damage than the fires of America. And that in spite of the fact that America is the most thoroly fire swept nation on the old globe.

In Europe a fire is a disgrace, and the man who permitted it is treated as a criminal.

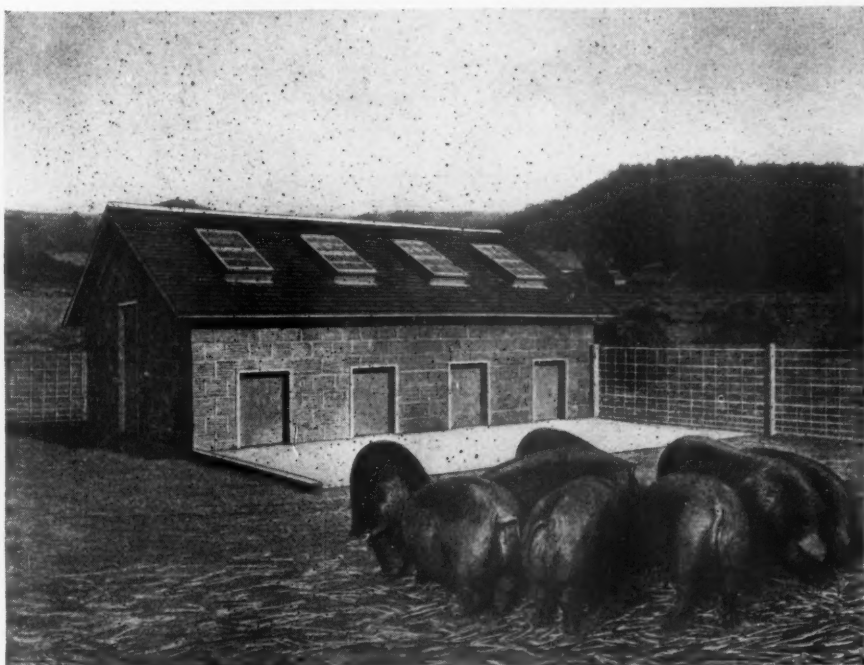
In America, where the damage per population is far greater than in Europe, we look upon a fire as bad luck and the man who is injured has our sympathy and maybe even our help.

We look upon the rat simply

(Continued to page 152.)



Good Houses Encourage Chickens to be Productive When Eggs Bring the Highest Prices.



Warm, Permanent Houses Double the Number of Pigs a Farmer Can Raise Each Year.

Every Home Needs Water and Light

PRIVATE SYSTEMS THAT PROVIDE CITY CONVENIENCES IN COUNTRY HOMES ARE BEING INSTALLED IN PRACTICALLY EVERY NEW HOUSE AND MANY OLD ONES

“WHAT one of the many improvements now available for farm homes would you rather have?” asked the head of one of the state departments of agriculture in a letter sent to the farmers’ wives of that state a year or so ago.

Fifty-three out of every 100 who answered replied: “Some system of running water.”

“In what percentage of the plans you now are drawing for farm and country homes is provision made for a water system?” an architect who specializes in designing houses of this type was asked recently.

“One hundred percent,” he answered promptly, and added that nine out of every ten houses are also to be wired for electric lights.

Apparently, when these two statements are considered, the vote for running water in the country home has been made unanimous since the state agricultural department head sent out his questionnaire. At least, the statement of the architect shows that there are few—mighty few—new homes being built this year in which the contractor will not install water systems.

Knowledge of the different types of private water systems is as essential to the modern contractor and

builder as it is for him to know what heating system will meet the requirements of the house he is building. For instance, the water system that will provide for the needs of a house and garage will not be adequate to supply the barn and other places on the farm where water is required.

Compressed Air Pump Water System

Water systems that include in their equipment compressed air tanks provide an adequate supply of water, no matter how extensive the owner’s needs are. These compressed air operated systems are of two types. In one the water is pumped into a tank containing air, the pressure of the water compressing the air, which forces the water thru the pipes. The other is also a compressed air system, with the exception that the compressed air operates the pump, which in turn provides the pressure. Accompanying illustrations show how one of the latter systems is installed and operates.

The equipment consists of an engine or motor, an air tank, an air compressor and an air-operated pump. The pump is located in the well or cistern, and the other parts are in the basement of the home, an out-building or any other convenient place.

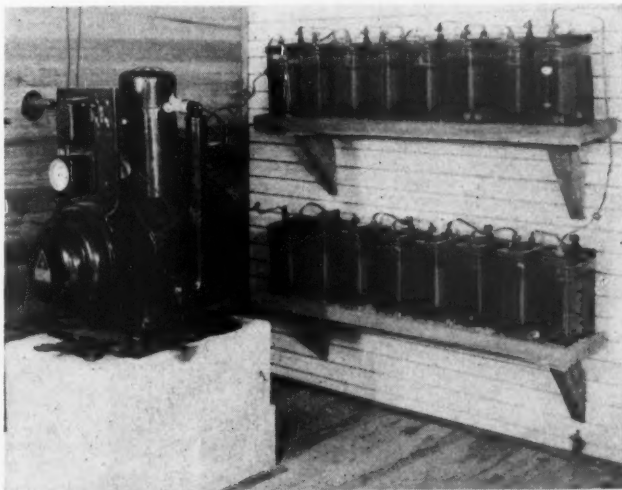
The pump is submerged about six feet in the well or cistern. The compressed air from the tank is ad-



There is a Sermon in This Illustration Showing “Sunnyside,” the Farm Homes of E. E. Ellett and His Son, Curtis, Near Beloit, Ohio. The House at the Left Is Mr. Ellett’s Home; the One at the Right Is That of His Son. Improvement Always Has Been Mr. Ellett’s Idea, and His Place Shows That He Has Realized It. “Even the Cows in the Big Dairy Barn Have Individual Drinking Cups,” Says an Admirer of Mr. Ellett. This, of Course, Is Made Possible by an Efficient Water System. The Two Houses Show Striking Contrasts in Architectural Design of Farm Homes.

mitted to the cylinder and forces the water into the piping and out when the faucets are open. When almost all the water is discharged from the cylinder the air inlet valve and the water outlet valve close, and the exhaust valve opens, permitting the air to escape and the cylinder to refill. As soon as the pump cylinder is refilled the other valves automatically open. Altho this operation requires but one second, there is a trap containing both air and water which prevents a lapse in the pressure.

When pumps are installed in both the well and cistern, they are operated by one air-compressing equipment. The latter may be located in any convenient place, regardless of the distance from the well or cistern. The tank contains air only and does not have to be protected from freezing, and often is placed where the compressor may be operated by an engine used for other work. When electricity is available, a motor may be used. This can be automatically



Electric Light and a Water System Have Transformed the Kitchen of the Country Home Into a Modern, Convenient Woman's Workshop."

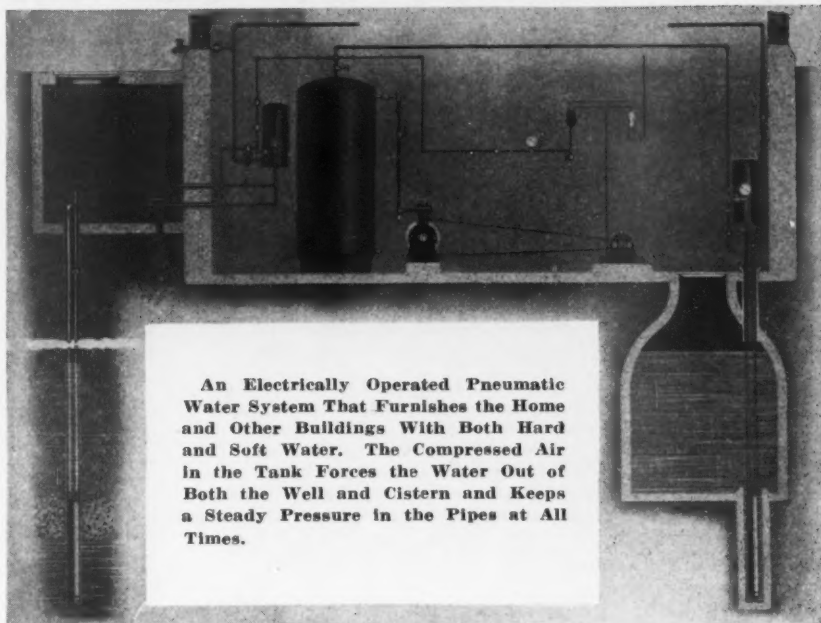
controlled so as to start and stop when necessary.

As power is the basis of both private water and electric lighting systems, few have one without the other.

Private Electric Lighting System

The accompanying pictures illustrate some of the effects and the benefits of electricity as it may now be enjoyed on the farm, also an individual electric plant of the direct-connected type, which is being widely employed to furnish electricity in districts remote from city influences.

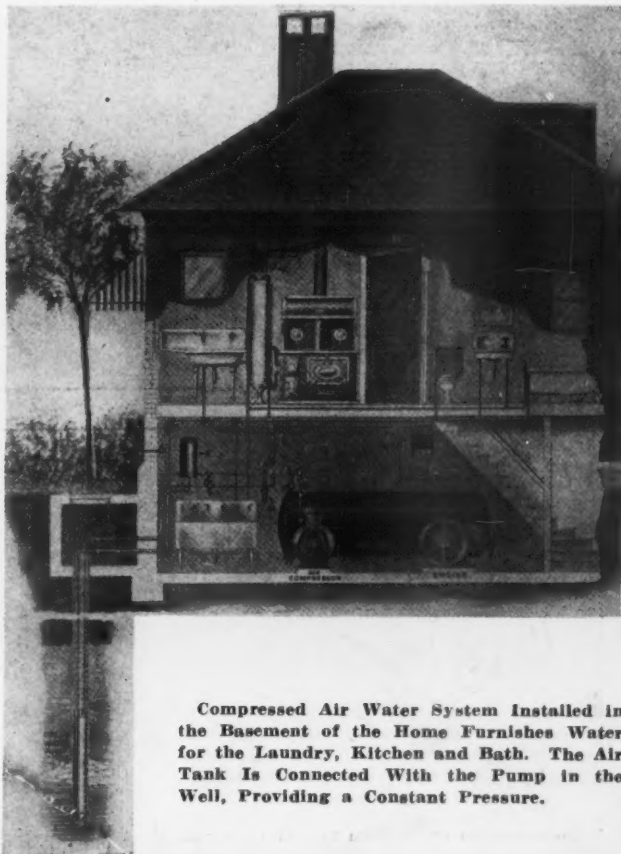
Some of the distinctive features of this electric light



An Electrically Operated Pneumatic Water System That Furnishes the Home and Other Buildings With Both Hard and Soft Water. The Compressed Air in the Tank Forces the Water Out of Both the Well and Cistern and Keeps a Steady Pressure in the Pipes at All Times.

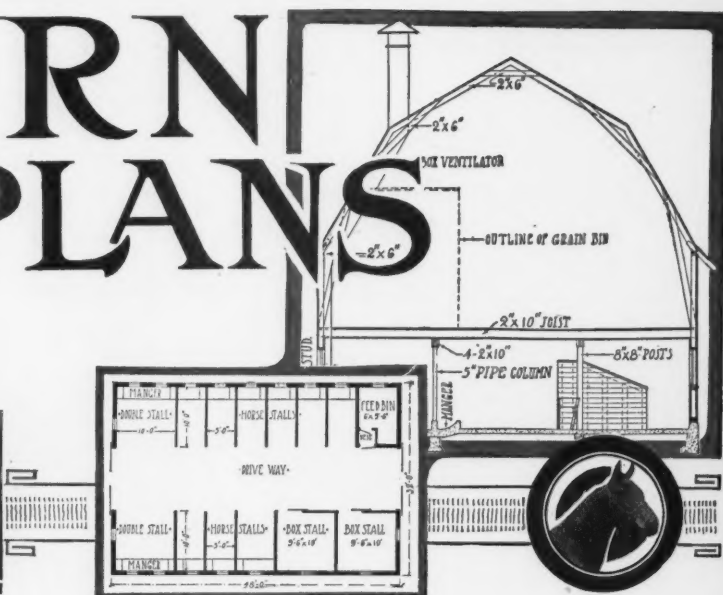
plant are that the gas engine is air-cooled, also that it uses kerosene successfully for fuel. Because it is air-cooled, it can be installed any place about the farm premises without regard for danger from freezing. It is small and compact and can be placed in the basement of the residence, if desired, in a corner of the garage or at any convenient point about the premises, indoors or out.

(Continued to page 172.)



Compressed Air Water System Installed in the Basement of the Home Furnishes Water for the Laundry, Kitchen and Bath. The Air Tank Is Connected With the Pump in the Well, Providing a Constant Pressure.

MODERN BARN PLANS



Blue Prints of an Excellent Barn

BARNS of medium size that have the features of construction and equipment that will make them modern, efficient buildings to house the farm livestock and their winter's supply of food, now are in demand. Herewith is shown such a barn, while

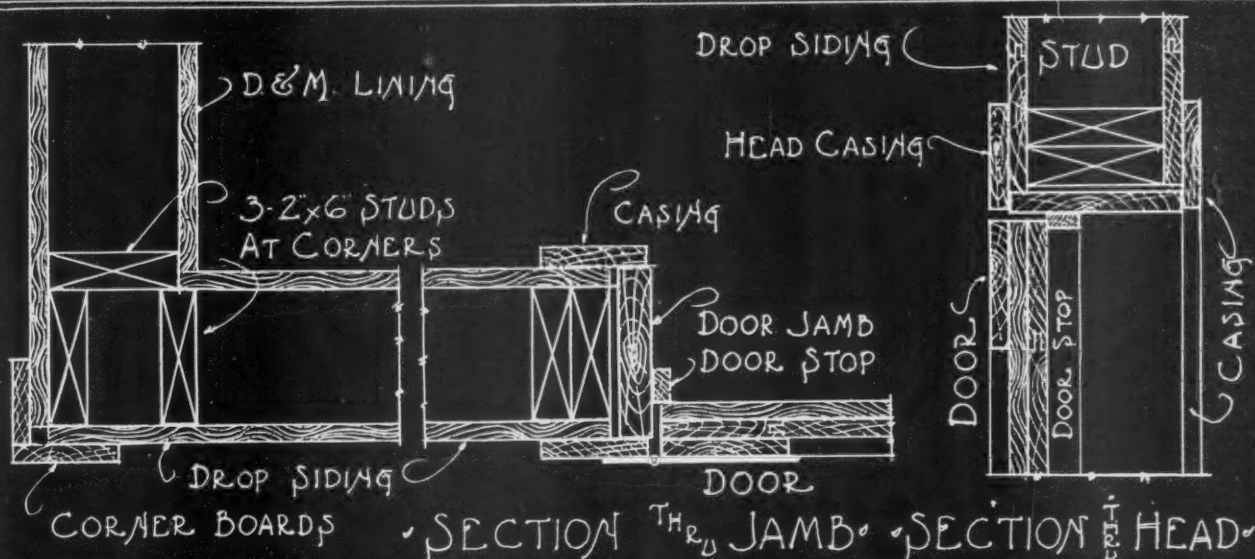
in the blue print section following are plans, cross-section and detail that will appeal to every builder and his farmer customers. This plan provides for a well ventilated building, with a silo adjoining. Using this design will get many good barn building jobs.



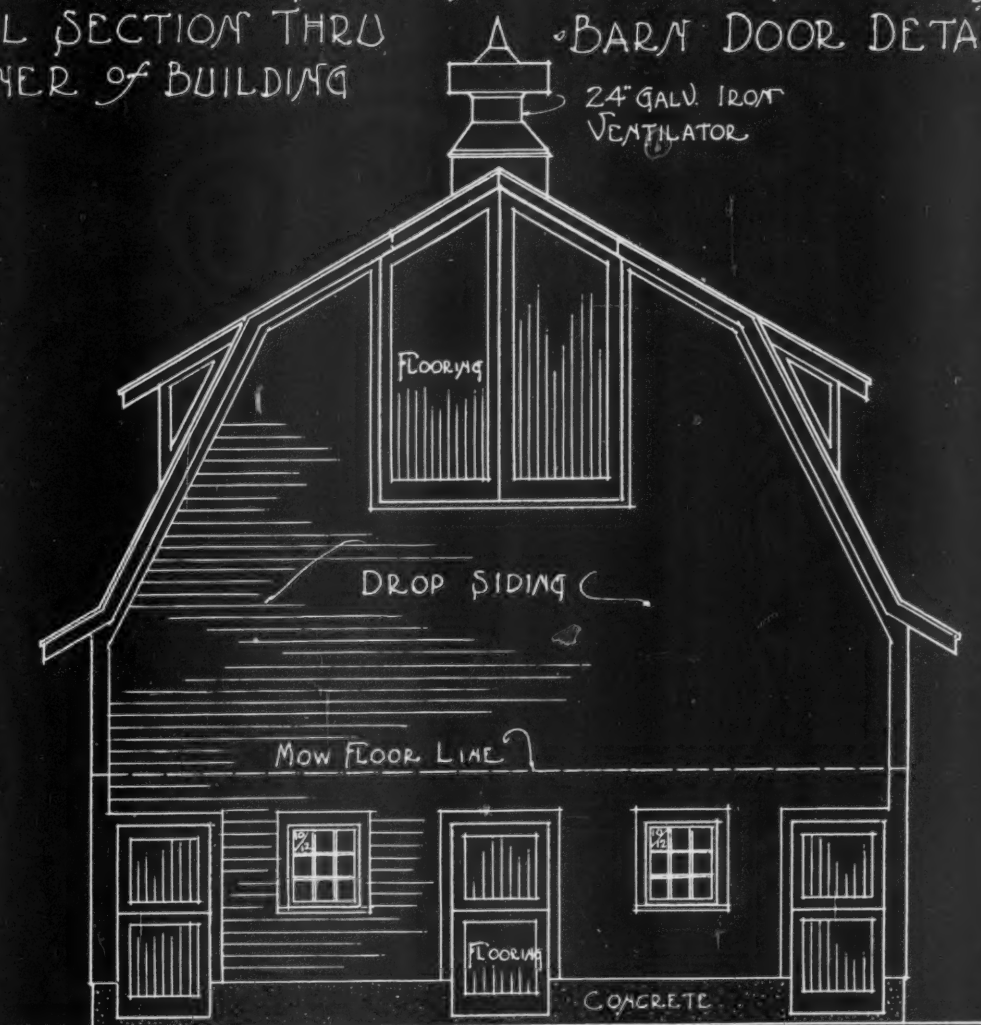
A Modern Barn of Medium Size, Weather Tight, With Plenty of Windows to Admit Germ-Destroying Sunshine and Well-Ventilated, Is Needed on Every Farm. The Silo Also Is a Necessity.

COMPLETE WORKING PLANS ARE PRESENTED IN THE BLUE PRINT SUPPLEMENT FOLLOWING

AMERICAN BUILDER BUILDING PLANS



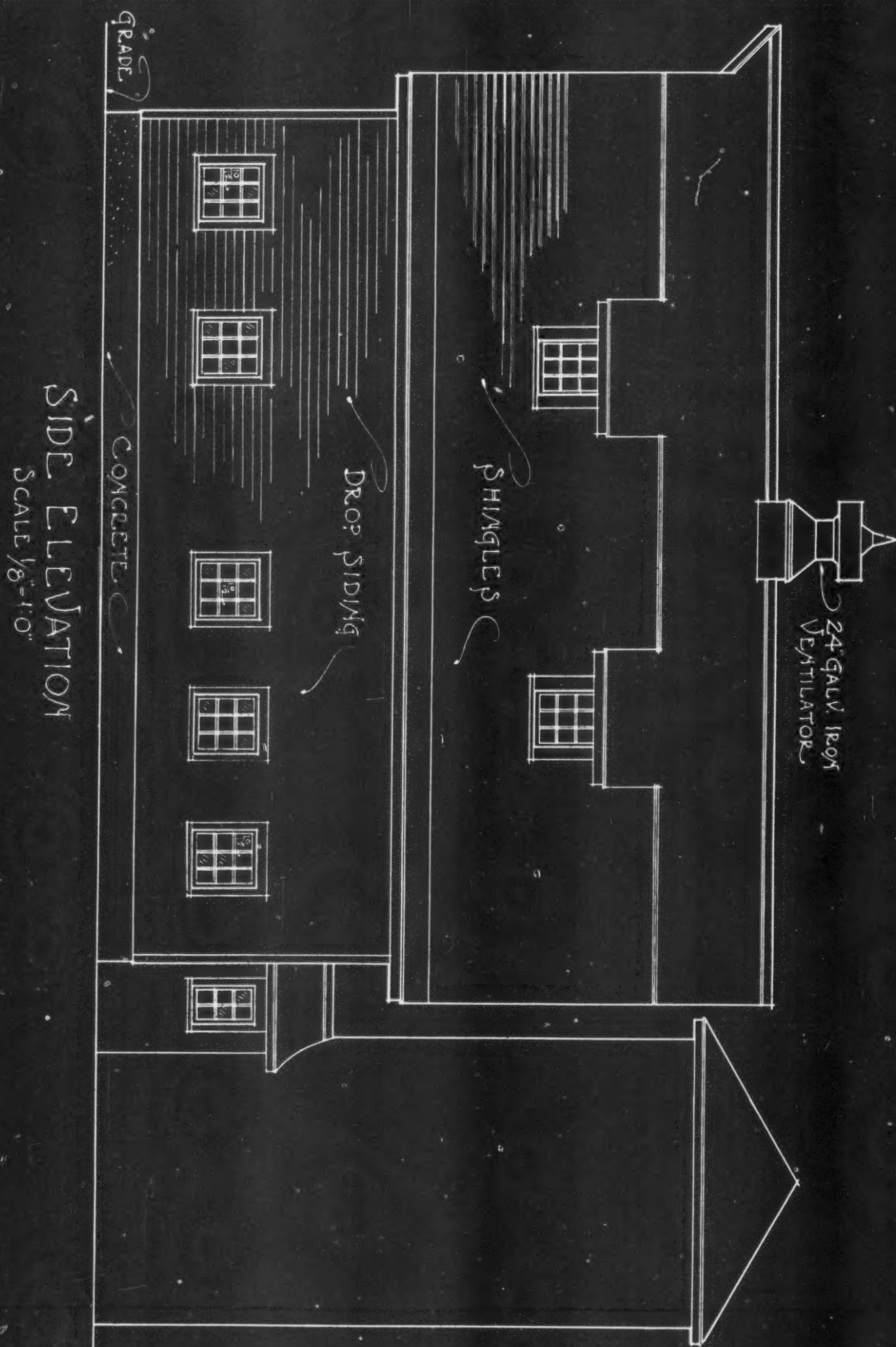
DETAIL SECTION THRU CORNER OF BUILDING SECTION THRU JAMB SECTION THRU HEAD BARN DOOR DETAILS



FRONT END ELEVATION
SCALE $\frac{1}{8}" = 1'-0"$

DAIRY & HORSE BARN. SHEET NO 1.

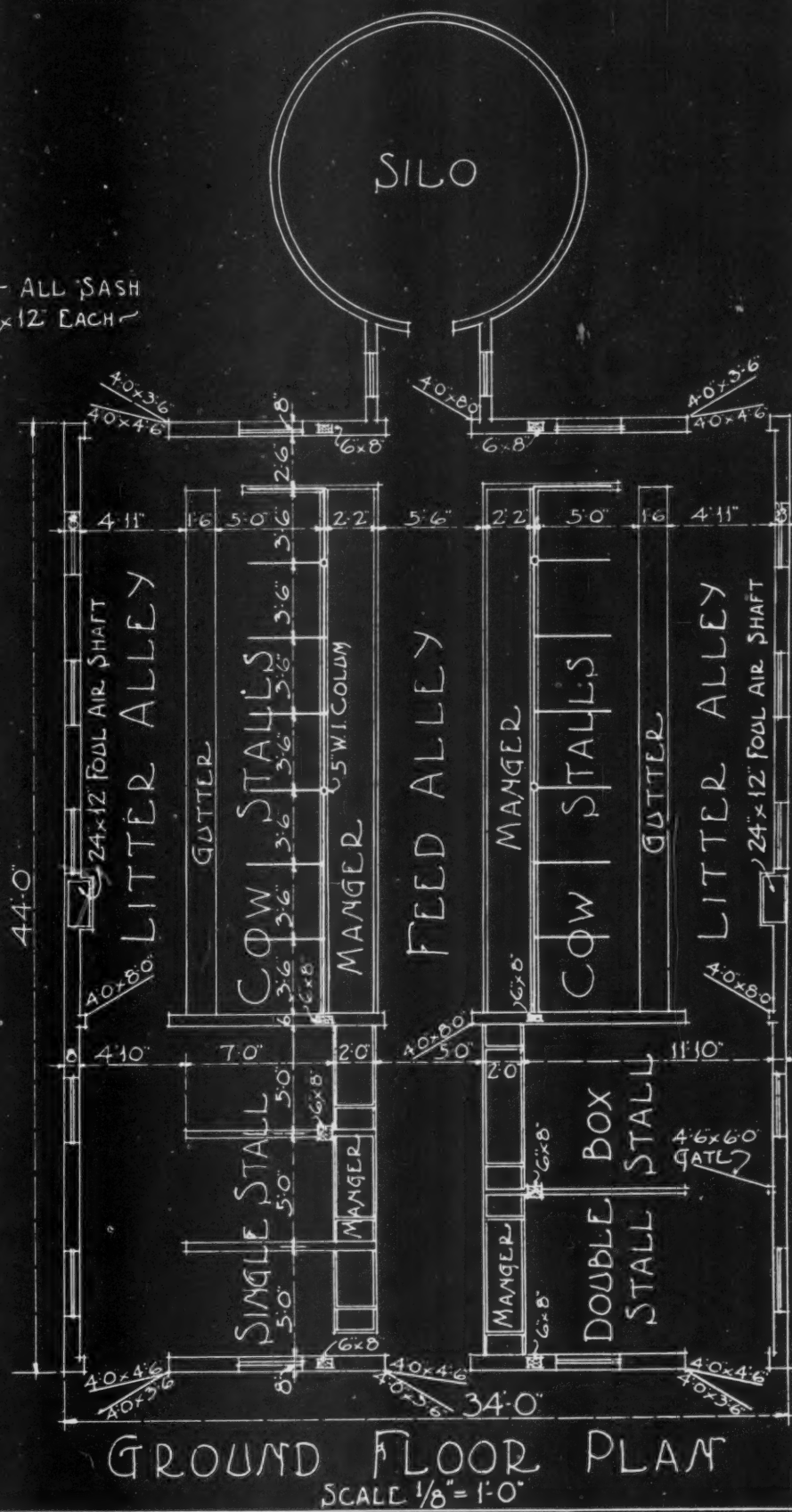
AMERICAN BUILDER BUILDING PLANS



DAIRY & HORSE BARN. SHEET N^o 2.

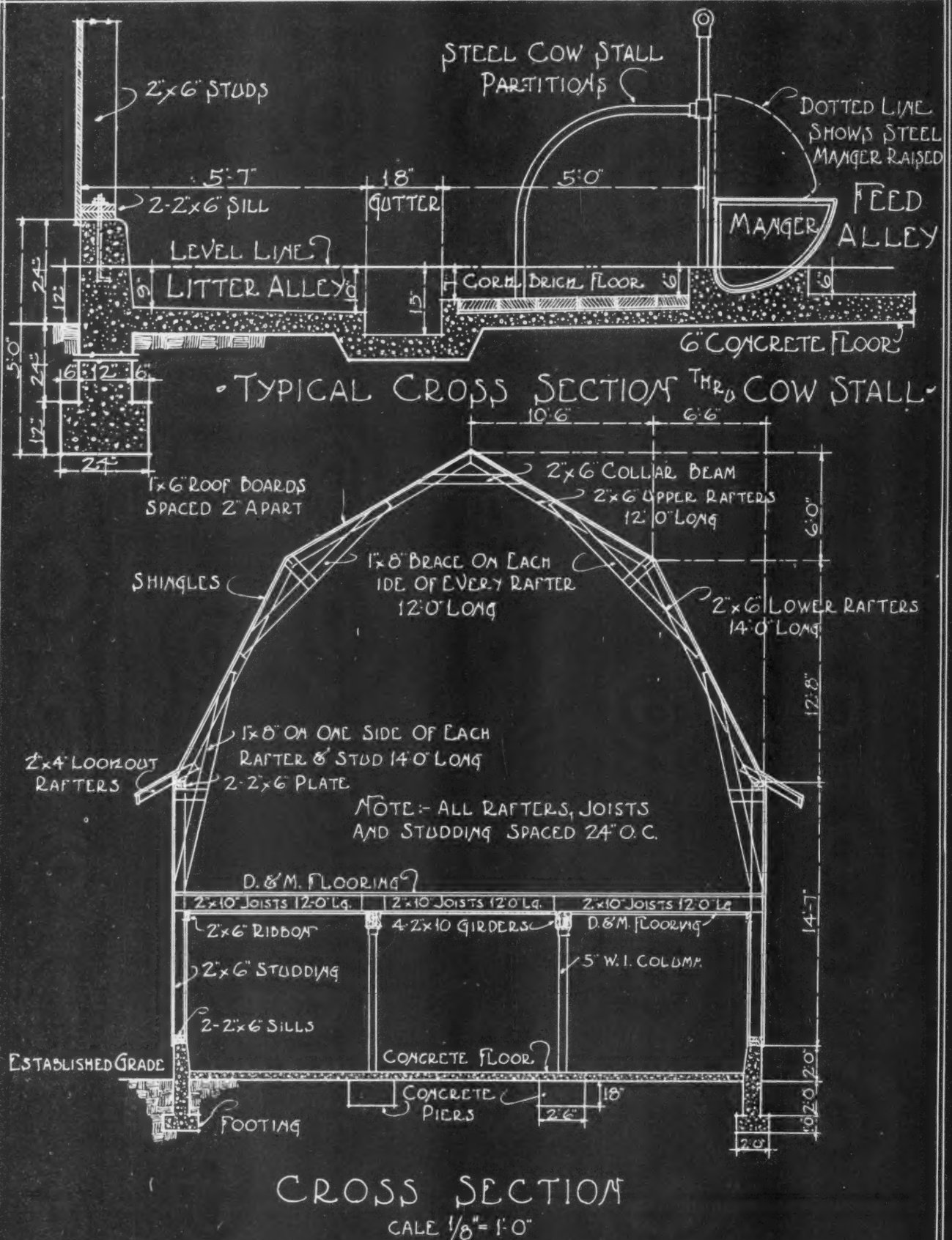
AMERICAN BUILDER BUILDING PLANS

NOTE:- ALL SASH
DLTS 10x12 EACH



DAIRY & HORSE BARN. SHEET NO. 3.

AMERICAN BUILDER BUILDING PLANS



DAIRY & HORSE BARN. SHEET N^o 4.

CORRESPONDENCE



Questions Answered and Ideas Exchanged.

Our Readers are Requested and Urged to Make Free Use of These Columns for the Discussion of all Questions of Interest to Carpenters and Builders

November Hog House Officially Indorsed

To the Editor:

Port Hope, Ont., Canada.

We have just completed a hog house (capacity 100 hogs), using plan in the November issue as a basis. The Ontario inspector pronounced it as fine and up-to-date a hog house as is in Ontario.

I appreciate your magazine.

GEO. W. GARNETT, of

Thomas Garnett & Sons, Builders and Contractors.



Wants Farmhouse Plans

To the Editor:

Winkle, Ohio.

I also enjoy the blue prints, but would like you to show some blue prints for some real farm houses.

OLIVER WALKER.



Will This Chest Win the \$10 Prize?

To the Editor:

Perth, N. B.

I am out after Mr. J. J. Honan's \$10.00 which he offers in the February issue of AMERICAN BUILDER for plans of a tool chest which suits him.

I am enclosing photo and short description of one I built and have used for a number of years. It has suited me in every particular.

The photo does not need much explanation. You will notice that each drawer or till is covered when shut by the one above it. When chest is closed it can be rolled over or stood on end, or handled roughly (as they sometimes are when traveling), and no tool will get out of its place.

And also when you open the cover the two tills attached to it come up on a level and the irons that lift them lock the top so that it will not fall back.

The saw rack and planes and larger

tools are in the main body of the chest, and when it is all opened up every tool is exposed to view.

It is made of birch, dovetailed on the corners, iron elbows where required, and is not so very heavy either.

H. P. MACLAUCHLAN.



Wants Help on Ventilation Problem

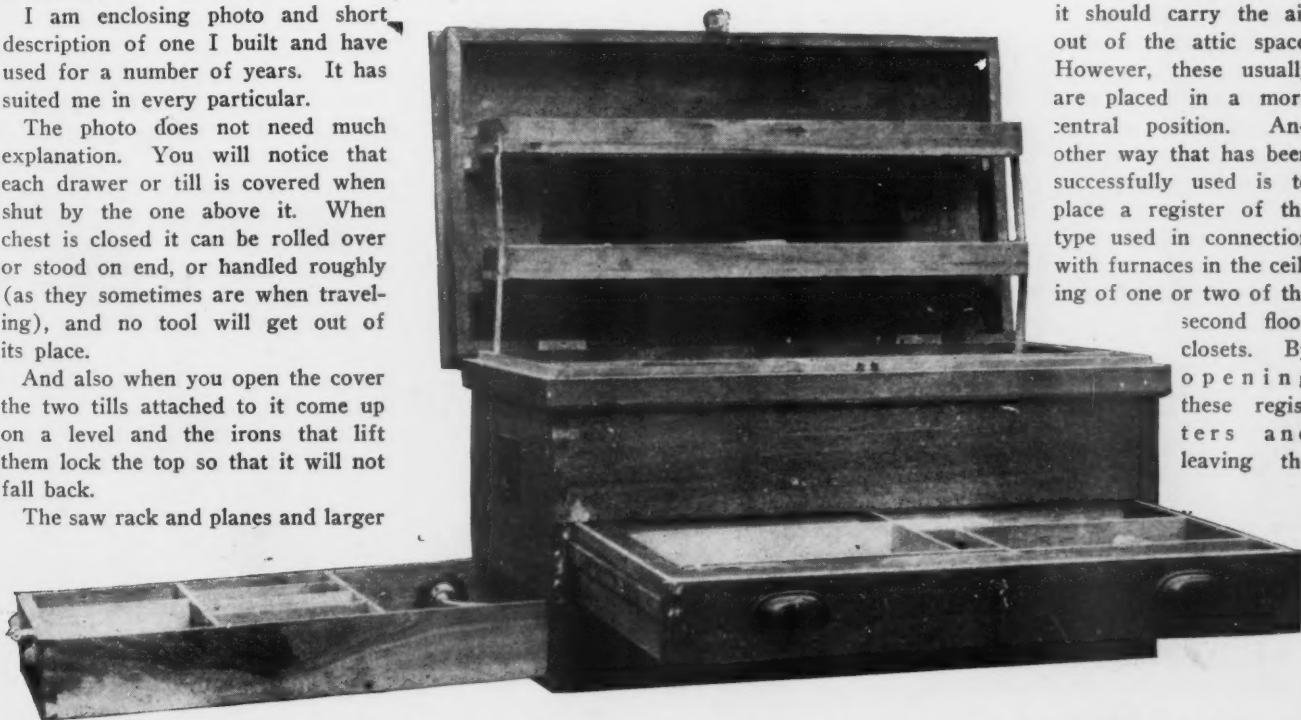
To the Editor:

West Charleston, Vt.

I have been an interested reader of the AMERICAN BUILDER for several years and find in it many valuable articles of interest to me. I would like to ask some brother to help me on a problem of ventilation. I remodeled an old house, 64 feet long and 24 feet wide. The roof has only a 4-inch pitch to the foot and there are 2½ feet between the second floor ceiling and the roof. The latter is of paper construction and when it freezes and thaws the ceiling is wet. I have put a window, 14 by 28 inches, in one end of the attic and a ventilator in the gable at the other end, but this method has done no good. I would like to hear from more than one reader on this subject.

H. LEON COLLINS.

Answer—If the ventilator is of the type that is used in barn ventilating systems, it should carry the air out of the attic space. However, these usually are placed in a more central position. Another way that has been successfully used is to place a register of the type used in connection with furnaces in the ceiling of one or two of the second floor closets. By opening these registers and leaving the



H. P. MacLauchlan's Entry in the Contest for the \$10 Price Offered by J. J. Honan for a Design of a Tool Chest, Offered in the February AMERICAN BUILDER.

closet doors open, a draft that will take out the damp air thru the window and ventilator will be created. The disadvantage of this method is that in the winter the warm air will be drawn out of the house, but in the summer the house will be cooler. Have the readers of the AMERICAN BUILDER suggestions that will help?

EDITOR.

Why Such Expansion in Glass Roof

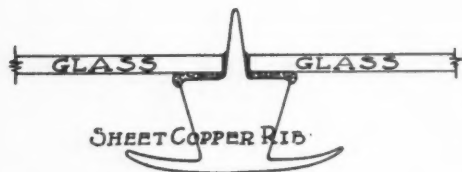
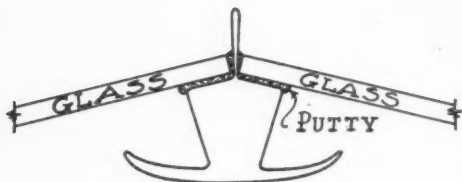
To the Editor:

Pittsburgh, Pa.

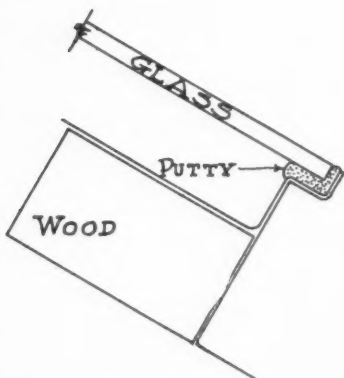
I have a roof to care for and keep in repair which has several very long stretches of glass supported on sheet

copper ribs resting on wood strips on steel frame. This winter the glass in many places has become pinched between the ribs, breaking some of the glass. In many places one sheet of glass heaved up bending the ribs, as shown in top sketch, and one heaved up as in the second sketch, lifting the rib up three inches from the support. The normal position is as shown below in the center. These ribs are riveted and soldered to the foot strip of copper.

What puzzles me is what causes this stress or compression on the glass in the



SHEET COPPER RIB



Detail of Glass Roof Construction.

cold weather. I would like some explanation and a suggestion for a remedy.

The glasses are about 24 inches wide. The building is heavy steel frame and stone and brick work, and always evenly heated.

Hoping to see some explanation and suggestion for remedy in the near future, I am

J. E. BATTEY.

Wants Basis for Rough Estimates

To the Editor:

Newkirk, Okla.

Will you please tell me what is the most accurate rule for making rough estimates on brick and frame buildings of different kinds, such as I mention below:

Brick store building, one-story.

Brick store building, two-story.

Frame bungalow, one-story, sheeted and weather boarded, with all modern conveniences.

Frame cottage, sheeted and weather boarded, with all modern conveniences.

I am very often called on to give an estimate offhand, as you might say, without going into details. If you will give me the rule for making estimates, I certainly will appreciate it.

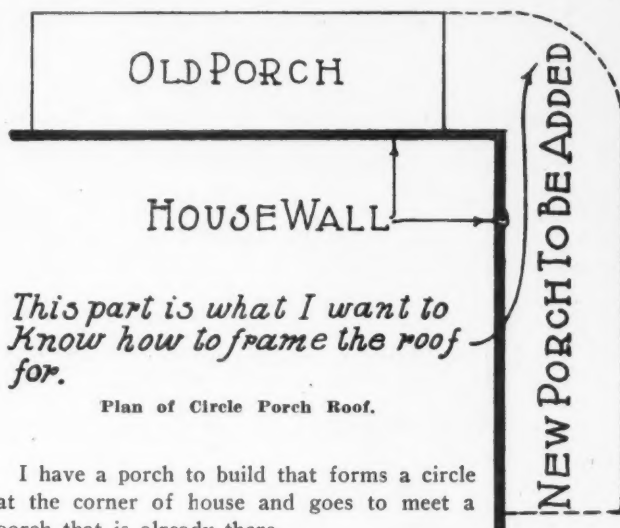
J. J. GARRETT.

Wants to Build Circle Porch Roof

To the Editor:

Raymond, S. D.

I would like to ask you to have some brother carpenter explain to me thru the column of the BUILDER how to frame a roof of a porch that circles around the corner of a house.



This part is what I want to know how to frame the roof for.

Plan of Circle Porch Roof.

I have a porch to build that forms a circle at the corner of house and goes to meet a porch that is already there.

As I am a beginner in the business I thought there was no harm in asking for advice of some of the wiser ones.

ANTON HOMOLA.

A Modern Country Home

To the Editor:

Aurora, Ind.

Enclosed find photo of pressed brick country home for John P. Busse, with bath, furnace, electric lights, lighted with Delco plant and with all modern conveniences, planned and built by Jesse H. Trester, contractor, Aurora, Ind.

JESSE H. TRESTER.

(Correspondence Department Continued to page 64.)



The John P. Busse Home, Equipped with Water, Electric Light and All Modern Conveniences, Which Are Becoming Less Uncommon Every Day.



WHEN you use Stanley Garage Hardware, the owner is certain to be pleased, because you will give him not only the splendid quality goods for which the Stanley name is famous, but also articles *made specially* to meet the requirements of his garage.

Stanley Garage Hardware

The Stanley line of Garage Hardware includes every item required in the equipment of a garage of any size or type and is put up in convenient sets insuring a harmonious uniformity. Its beauty of design, ball bearing, ease of operation and reliable lasting qualities will afford your client constant satisfaction and pleasure. Builders everywhere find that Stanley Garage Hardware exactly fills a constant need.

*Send for complete catalog C4
Free on Request*

THE STANLEY WORKS
NEW BRITAIN, CONN.

New York
100 Lafayette St.



Chicago
73 Lake Street

"The Way to Make People Build a Home is to Make Them Want to Build a Home—Fred Beard

HARDWARE DEALER HAS AN IDEA FOR A CO-OPERATIVE WINDOW DISPLAY THAT WILL PROMOTE HOME BUILDING IN HIS TOWN

FRED BEARD had an idea. He had been reading in the newspapers that the U. S. Department of Labor is urging everyone to build this year, so as to furnish employment to returned soldiers. He wanted to help this movement along, not alone because it was the patriotic thing to do, but because the more building that was being done in his town and in the farming district around it, the more building hardware and equipment he could sell in his hardware store. In thinking over how he could assist in this "Build a Building" movement, the idea came to him. And the more he thought about his idea, the more he was convinced that it would help bring about a resumption of building in his immediate neighborhood.

At first Fred thought he would carry out his plan alone. Then it occurred to him that Sam Edwards, the building contractor, and Ed. Maple, the lumber and building supply dealer, were just as much interested in this subject as he was. So he had asked Sam and Ed. to come to the hardware store this evening and hear what he had to propose.

Sam and Ed. were interested and entered the store soon after supper. Both were progressive business men and when Fred had told them over the 'phone that he had an idea that would help along all their business, they were keen to hear what it was.

"You men have been reading and hearing about this 'Build a Building' campaign that the U. S. Department of Labor, the lumber associations and the AMERICAN BUILDER are advocating, haven't you?" began Fred.

Both men had.

"Well," continued Fred, "let's help this good thing along. It means more to us than to anyone else in this town, and we ought to boost it."

"I know that," interrupted Ed., "but how do you propose to do it?"

"Make 'Em Want to Build a Home"

"I have a notion that to get people to do a thing, you've first got to make them want to do it. Isn't that right? And isn't it true that the best way to make them want to do a thing is to show them what they will have after they do it? Isn't that right, too?"

"Well, everybody wants a home.

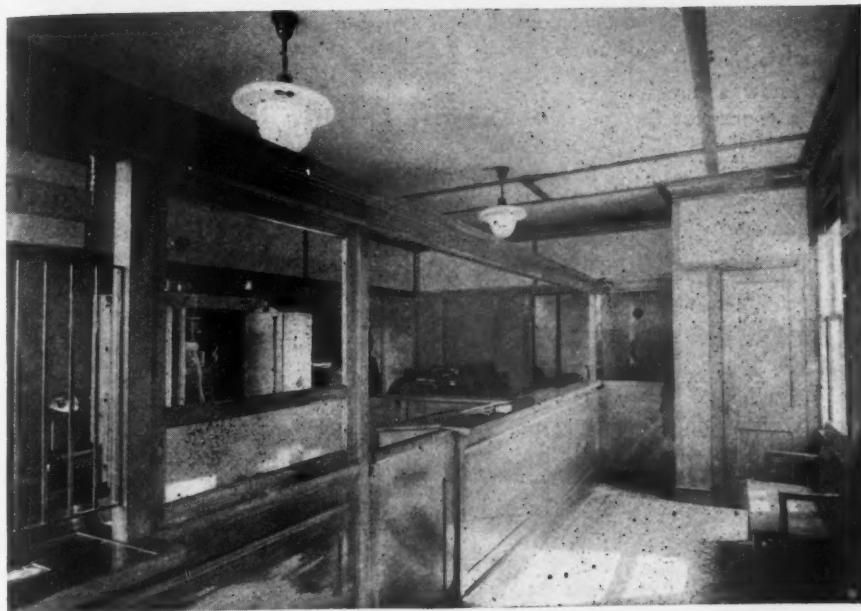
Down, deep in them somewhere is a desire for a home. The trouble is that desire isn't cultivated. By that I mean the desire isn't strong enough to make them go ahead and get a home.

"You know and I know that every time we see a picture of an attractive house, or bungalow, we're interested. Not just because homes and other buildings mean dollars and cents to us, but because we have that same instinct that's in everybody else. Why, the things that interest me most in the AMERICAN BUILDER every month are those pictures of homes—the 'Portfolio of Beautiful Homes,' they are called. If those pictures affect you and me that way, why won't they affect everyone else who sees them. The trouble is we fellows interested in home building see them, but the people who want a home, but don't know it strong enough to have one, never have a chance to look at these pictures.

"Now here's my idea. I've got a great big show



Fred Beard Drew a Mental Picture of His Idea for a "Build a Building" Window Display.



Office of the Standard Lumber Co., Chicago, a Modern, Attractive Place in Which to do a Lumber Business. This Is the Lumber Dealer's Advertisement of Building. The Standard Company's Office Is Finished in Wallboard.

window there in the front of my store. Hundreds of people pass it every day. All of those people have the instinct for a home down deep in 'em, but there's nothing about a lot of saws and hammers and bits and braces, and other things that I have to sell that will bring that instinct to the surface.

"But I believe that those AMERICAN BUILDER beautiful home pictures will.

Co-operation Will Win

"Now, here's my plan. Let the three of us co-operate and put in a window display that will make people want to build homes. I'll furnish the window. You fellows furnish the display. You, Sam, take some of that wallboard you've got down at your shop and make a panel. Make the main panel the full size of the window and put wings on each end. You, Ed., get some picture frame moulding and give it to Sam and he'll put the frames together; make them the right size to fit these pictures we can take from the AMERICAN BUILDER. I've got plenty of glass and if we make the frame standard size, I can put in the glass and the pictures will be attractively framed.

"Then we'll hang these pictures on the wallboard background. And, by the way, Reddin White, the painter is just as much interested in this plan, as we are. Let's get him to do the painting. And, beside, his daughter has a knack for water colors. Why couldn't she make the grass green and put some color on the houses. That'll give 'em more life.

"All together we'll make a window display that will arouse the desire to have a home in a lot of people. And some of 'em will get that desire so strongly that they'll build, too. What do you think?"

"It sounds reasonable—most reasonable," said Sam. "I'll be glad to do my share."

"So will I," chimed in Ed.

"Then that's all there is to it," said Fred. "Let's get busy. The trouble with us is that we are apt not to consider that what helps any one of us, will help the other fellow, too. Co-operation is how all these big fellows get along so well. The lumber men all get together and boost building. So do the cement manufacturers. The building the lumber men promote may help the cement man. And the business generated by the cement men may help the lumber fellows. But they know that by co-operating they can start something. And when the dust is flying, there's no telling in whose eye it will land.

"That's what we want to do. Let's get together and when one has an idea, let us all in on it. We can put it over a great deal better

by working together than by pulling alone and in different directions."

"You said a mouthful," exclaimed Sam.

"And I've got an earful," said Ed. "And that earful I got sounds like real music to me. Let's get that display in right away."



Displaying Building Materials

THE present-day office of the lumber dealer presents a sharp contrast to that of twenty years ago. Then the office at the lumber yard was little more than a shed—rough and uninviting; today it is a modern business office, well built and well furnished; in fact, a strong advertisement of building and building materials.

How attractive and how inspiring the office at a lumber yard can be made with the materials the dealer has for sale is shown in the accompanying illustration, which is a view of the office of the Standard Lumber Co., Chicago. The fixtures are of the millwork the company handles, while the walls and ceiling are finished with wallboard, another item the company sells, thus making a display of these products.

"Wash all you've got, and hang out all you wash," was the advice given a young man by a successful merchant. This was his quaint way of illustrating the fact that one of the fundamentals of selling is to let people see what is for sale.

Salesrooms, wherein are displayed samples of the materials the dealer has in stock, are not uncommon in retail lumber yard offices. While some of the specialties carried require considerable room, it has been demonstrated that with such a display sales jump. The actual use of these materials, however, such as the wallboard walls and ceiling in the Standard company's office, shows that the dealer himself believes in his goods.

"Ten Percent Plus" Contracts

To the Editor:

Alexandria, Neb.

I don't understand all that I would like to know about these ten per cent plus contracts. Just what is a contractor supposed to furnish on the contracts? What is he responsible for? I would like very much to have explained this to me from a to z.

LEVI LANDKAMER,
Contractor and Builder.

Acid Treatment for Old Files

Editor AMERICAN BUILDER:

La Fargeville, N. Y.

In the March issue, Wm. Gemmer asks for a method of recutting files with acid. The following may be useful to him and others. Remove all the grease from the steel and submerge the files in a solution made by putting one ounce of sulphuric acid in a pint of soft water. Watch them and let them remain only long enough to become sharpened. A small wooden trough may be used to hold the solution or a glass dish; it will eat metals.

Another method is to wash the files with hot soda water and remove all grease with a brush and cloth. Suspend them in a mixture of concentrated nitric acid with eight parts water, for twenty-five minutes. Then clean well in water with brushes and re-immerses for twenty-five minutes more in the acid mixture with the addition of another eight of strong acid.

There was a time when one did not care to renew files, but now since they cost more it may be desirable. I have

a collection of them and think I will try the above on some of them.

JOHN UPTON.

To Layout Gothic Roof Rafters

To the Editor:

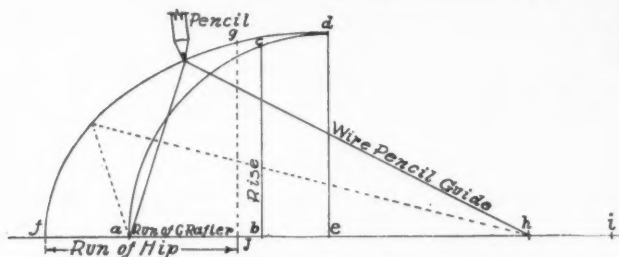
High River, Alta., Can.

I have been greatly interested in the articles submitted by different readers on the subject of laying out hip rafters for a Gothic roof. They are all correct in method, with the exception of the one in the January number.

Mr. Brendsel describes a circular arc which is to be in the same plane as the given common rafter, which I think most readers will concede is impossible. By the drawing, there is only three points in the curve, namely, c, e and b, that would be in the same plane as the common rafters. It is not possible, as I understand it, to draw an elliptic curve from one center and only approximately so from two centers.

Mr. Westholms' and Mr. Upton's are both geometrically

(Continued to page 66.)



A Simple Method of Laying Out Gothic Roof Rafters.

Free—A New Book for Those Who Plan and Build

Partial List of Contents

138 Photographic Illustrations
11 Pages of Details
10 Complete Specifications
Numerous Tables

Size of Book 8½" x 11"—64 pages

Arched floors
Ceilings
Conduits
Fences
Finishes for stucco
Floors
Furring
Garages
Overcoating
Partitions
Roofs
Safe loads on slabs
Stucco residences
Tanks
Walls and sidings

METAL LATH
Because Metal Lasts

TRUSCON
BUILDING
PRODUCTS

"Magnificent" — "invaluable" — "most useful" — "finest of trade literature" — are a few of the comments on the new Hy-Rib and Metal Lath Book just off the press.

Ordinarily our printed literature is not featured in our advertisements, which we prefer to devote to the merits of our products and service. But this new book is so exceptional in every way that we would be neglecting a duty to our friends if we did not bring it prominently to their attention.

The new Hy-Rib Book will be sent free to responsible persons, on return of attached coupon or request on letterhead. If you care to give us information about contemplated building, we would appreciate it, but at any rate write for book. Address Hy-Rib and Lath Dept.

Practically everything on the application and use of Hy-Rib and Metal Lath products is included. Hundreds of photograph illustrations — page after page of large-scale details — complete specifications on many subjects — tables for designing — in short, just the book needed by the architect, engineer, contractor, plasterer or owner. A book of large size, 64 pages in all, convenient to use and attractively printed and bound.

TRUSCON STEEL COMPANY
YOUNGSTOWN, OHIO

Reinforcing Steel, Metal Lath, Steel Windows, Steel Buildings, Pressed Steel, Cement Tile, Etc.

HY-RIB

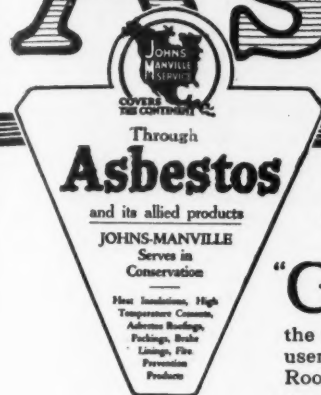
Truscon Steel Co., Youngstown, O.

Send free copy of new Hy-Rib Book. I am interested in building a.....

Name.....
Position.....
Address.....
City.....

ANNOUNCING JOHNS-MANVILLE Asbestone

(Approved by Underwriters' Laboratories)



A Johns-Manville Asbestos Roofing at a Popular Price

"GIVE us a Johns-Manville Asbestos Roofing that will be within the price range of other ready-to-lay roofings." This has been the demand of the roofing dealer and the wish of thousands of roofing users, who believe in the superiority of an Asbestos Roofing.

Here is the answer to the demand, a popular-priced Asbestos Roofing in ready-to-lay form—Asbestone.

It is not a cheap roofing in the sense that its quality or its composition have been slighted. It is an inexpensive roofing, only because its manufacture has been planned on a big scale and its cost therefore is down to the minimum.

What Asbestone Is

Like all other Johns-Manville Asbestos roofings, ASBESTONE is a mineral fabric, composed of Asbestos fibre, cemented together with natural asphalts. Gray mottled Asbestic finish on one side, smooth black surface on the other. May be laid either side to the weather. Roll's contain all necessary fasteners for laying. Can be applied by anyone.

Asbestone defies time and repels fire. The varying degrees of heat and cold leave it unchanged, because being *all mineral*, there is nothing in it to disintegrate, dry out or rot. It never requires paint-

ing, and it will give years of service without the need or cost of repairs.

The Same Institution Behind All Johns-Manville Roofing — Vouches for Asbestone

Whether you buy Asbestone, or any one of the other Johns-Manville Asbestos Roofings, you can register your roof with us, which puts it on our records as Johns-Manville Roofing in Service. We then obligate ourselves to see that this roofing bears out all claims we make for it. It is our responsibility to see that it gives the service promised.

Other Johns-Manville Roofings

Johns-Manville Asbestos Roofings are made in great variety for all roofing needs. Johns-Manville Asbestos and Colorblende Shingles for homes. Johns-Manville Brooks and Flextone Ready Asbestos Roofing for sloping roofs or large permanent buildings. Johns-Manville Built-Up Roofing for all flat surfaces, and Johns-Manville Corrugated Asbestos Roofings for skeleton frame buildings.

H. W. JOHNS-MANVILLE CO.
New York City
10 Factories — Branches in 63 Large Cities



Correspondence Department

(Continued from page 64.)

right. The only question remaining to decide, is if it is possible to develop the elliptic curve required in such a way as to be more easily carried out in practice on the job.

A method I have found very simple in practice is shown in the enclosed diagram, which I am sure many readers are familiar with, altho it has not been described in the pages of your valuable magazine since I have been a subscriber.

Let a-b equal run of common rafter, and b-c equal rise. Produce a-c to d, forming a complete $\frac{1}{4}$ circle. This arc has, of course, the same radius used for drawing the common rafter and is equal to the minor axis of the ellipse, the part of which f-g forms the curve of the hip rafter. To find the major axis of the ellipse, multiply the radius of the common rafter by 1.4142, which is equal to the line f-e. Produce f-e to i. With f-e as radius and d as center, cut f-i in a and h, these points being the foci in the ellipse required. To draw the elliptic curve (working size) drive in two nails at a and h and with a fine wire and pencil (string is apt to stretch) draw as shown. The run of the hip is found by multiplying the run of the common rafter by 1.4142 or $\frac{5}{12}$ nearly. Measure this distance from f-j. Erect the perpendicular j-g then f-g is the required hip or valley.

Hoping this will be of some service to fellow craftsmen.

PERCY TAYLOR.

General Building Contractor.



Plywood—A Wonderful War Legacy

To find wood for air and sea planes which shall be strong, light in weight, non-shrinkable and resistive to splitting, has resulted in marked improvements in the manufacture of

plywood. The strength of most woods when pulled parallel to the grain is several times that of mild steel, weight for weight; but wood is relatively weak across the grain and is susceptible to high shrinkage in this direction.

Plywood is made of several sheets of thin wood or veneer glued together so that the grain of any one sheet crosses that of both adjacent sheets. As many as 27 or more sheets may be glued together to form a piece of plywood an inch thick. Such material has satisfactory strength in all directions, shrinks or expands little with changing moisture, has high resistance to splitting and is easily worked. It is, therefore, very satisfactory for airplane stock.

Thousands of tests have been made in the past few months at the Forest Products Laboratory in Madison, Wis., to secure exact data as to the mechanical and physical properties of plywood and as a result its use promises to be much extended.

The wing ribs used by the Bureau of Aircraft Production in one of the types of machines were developed by the Forest Service. These ribs were thirty per cent lighter than those formerly used and twice as strong. The laboratory has also shown the possibility of using many species of woods for plywood heretofore considered unsuitable for airplane manufacture.

As may be seen, the glue is a very important part in the making of plywood, but tests have resulted in the manufacture of a glue that is so water-resistant that plywood may be soaked in water for ten days or boiled for one day without showing any signs of separation into its individual layers and without materially lessening its strength. There are tremendous possibilities for the use of this wood in furniture, trunks, door panels, wagons and other peace uses as well as in aircraft.



"BARCREST" Quality Shingles

Fine shingles of uniform quality play a most important part in Building. In the small house or bungalow everything depends on the quality of shingles used.

The "Barcrest" shingles are sawn from the finest live cedar—sorted into 12 grades—sizes 16", 18", 24" in length.

They may be had in any of our 20 beautiful shades or any special color you desire.

Write today for our roofing suggestions, color samples and catalog. It is of importance to you.

H. S. BARBER CRE-SOTE STAINED SHINGLE CO.

173-193 Beaufait Avenue, Detroit, Michigan

Beautiful Walls and Floors -beautifully Clean

Architects know that fine interior wood-work is worthy the same attention bestowed upon a choice piece of furniture.

There's nothing quite like hot water and soap to remove the dust and oily film that settle on walls and floors of a home.

Univernish has the peculiar virtue of being as impervious as glass to boiling hot water. Constant washing will not

turn it white or injure it in any way.

Be sure that Univernish is used in kitchen, butler's pantry, bath rooms and all other rooms where a sanitary cleanliness is essential to health.

Another fine Murphy material is Murphy White Enamel. We do not know how to make a better enamel.

Please write for specifications and samples.

Murphy Varnish Company

Franklin Murphy, jr., President

NEWARK

CHICAGO

The Dougall Varnish Company, Ltd., Montreal,
Canadian Associate



**Murphy
Univernish**
The Universal Varnish

Supplied Clear and
in six transparent
wood colors



Mr. Contractor:

Let us send you
portfolio of
wood panels

free. With it you can
show your clients just

how their woodwork and floors
will look when finished with Johnson's
Wood Dye, Prepared Wax, Under-Lac,
Flat Wood Finish, etc.

In this portfolio the Johnson finishes are
shown on all popular woods—panels of other
woods sent on request. The portfolio also gives
full specifications and instructions, as well as
covering capacities. Any good painter can
successfully use Johnson's Artistic Wood finish.

JOHNSON'S WOOD DYE

is a dye in every sense of the word—
it is made in twelve different shades—it goes
on easily and quickly without a lap or streak
—and it is put up in glass jars so there is no
possibility of color changing.

We will also be glad to send you free a
copy of our booklet, "The Proper Treatment for
Floors, Woodwork and Furniture." It is full of
valuable ideas and information for any one
interested in the proper finishing of wood. Its
practical suggestions may mean money to you.

Use attached coupon

S. C. JOHNSON & SON
"The Wood Finishing Authorities"
RACINE, WISCONSIN

-----Coupon-----

S. C. JOHNSON & SON

"The Wood Finishing Authorities"
Racine, Wis.

Please send me free and postpaid your portfolio of wood
panels and booklet, "The Proper Treatment for Floors,
Woodwork and Furniture."

Name

Address

I buy from

S. C. JOHNSON & SON, Dept. AB4, Racine, Wis.



EDITOR'S NOTE: The American Builder does not
accept payment in any form for what appears in our read-
ing pages. In order to avoid any appearance of doing
so, we omit the name of the maker or seller of any article
we describe. This information is, however, kept on file
and will be mailed to anyone interested; address Ameri-
can Builder Information Exchange, 1827 Prairie Ave.,
Chicago.

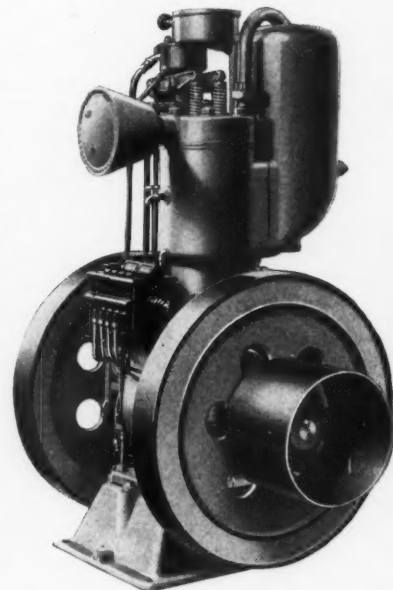
War Needs Develop New Kerosene Engine

During the war there was developed at the request of
the Engineering Department of the Army a vertical kerosene
engine of three, five and seven horse-power caused Major
O. B. Zimmerman to say: "This development was made
to meet the present
military conditions,
which require a thor-
oly reliable engine to
run on a wide range
of fuels and an en-
gine of moderate
weight and good pow-
er unit of weight.
Tests of this engine
have been most excel-
lent, as are represent-
ed by results obtained
in the experimental
laboratory at Wash-
ington Barracks, Dis-
trict of Columbia."

The new engine was
designed especially
for kerosene, but it
uses gasoline with
equal efficiency and
whenever the differ-
ence in price between
the two fuels is 12
cents per gallon the saving made by the use of kerosene will
in one year's use pay the cost of the engine.

The structural features of this engine, which are unusual
to the ordinary engine used on contracting machinery and
which result in the high efficiency and reliability, are forced
feed lubrication to the cylinder and all crank shaft bearings;
high tension magneto equipped with starter coupling gives
a good hot spark, no matter how slowly the engine is cranked
when starting; both valves located in the head and automati-
cally operated; drop forged connecting rod and crankshaft
with removable die cast bearings; air filters on both the
carburetor and crank case breather to prevent dust and dirt
entering the cylinder or crank case. The cams are milled
from a solid one-piece cam shaft with cams and gears
enclosed.

All engines have throttling governors and run with a
smoothness and steadiness. This engine is built in three, five
and seven horse-power sizes and is mounted in connection with



Kerosene Engine Developed for the
Government and O. Kd. by the Army
Engineers. Used in Connection with
Concrete Mixers, Hoists, Etc.

(Continued to page 72.)

DEVOE *Interior Finishes*

For every interior surface there is a DEVOE paint, varnish, stain or enamel. Each is prepared to render unusual service and each bears the DEVOE Guarantee of Purity and Satisfaction.

VELOUR *Finish*

A high quality oil paint that dries with a soft, flat, velvety, water-color effect. May be applied effectively to plaster, woodwork, wallboard, canvas or burlap; also to steam and hot-water radiators. Can be washed with soap and water and is guaranteed durable and sanitary. In twenty-one beautiful tints.

MARBLE *Floor Finish*

A transparent, hard-drying varnish made to resist the constant wear and tear that all floors and stairs receive. Preserves the beauty of natural wood floors. Will not scratch white or show heel marks. Dries over night. Ideal for vestibules because it is not affected by sudden changes in temperature.

ANTIQUE *Wood Stains*

Penetrate deeply and dry clear. A number of attractive Mission (lusterless) effects can be produced with these stains on floors, woodwork and furniture. A finish of walnut, mahogany or Oaks can be closely imitated by using these stains on any wood and may be finished with DEVOE Hard Wax Polish or DEVOE Marble Floor Finish, if desired. These stains will not raise the grain of the wood.

HOLLAND *Enamel*

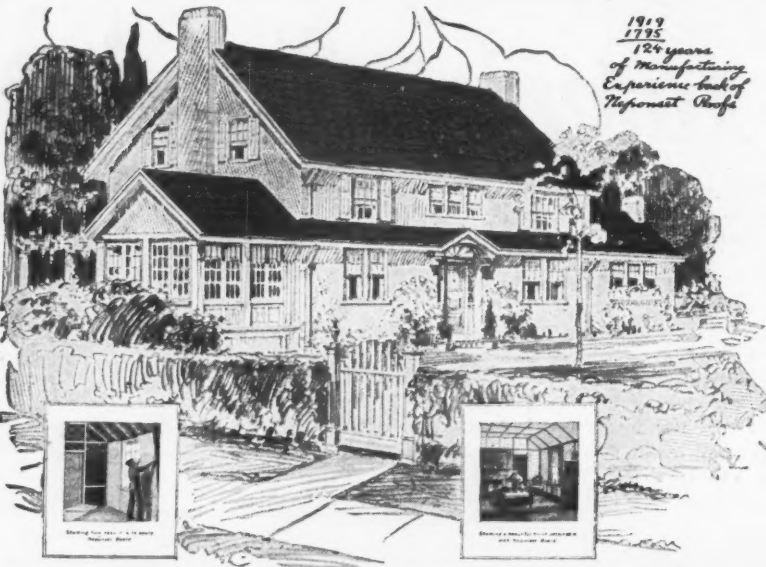
A high-grade oil enamel made with French Zinc. Contains no varnish gum. For use wherever a hard, porcelain-like interior finish is desired. Will not turn yellow or crack. Can be scrubbed with soap and water and is absolutely sanitary.



DEVOE

The oldest paint manufacturing concern in the United States.
Founded in New York in 1754

DEVOE & RAYNOLDS CO., Inc.
New York Chicago



*1919
1795
124 years
of Manufacturing
Experience back of
Neponset Roofs*

Are You Going to Build or Repair?

IF YOU want the best NEPONSET roof your money can buy, select NEPONSET Twin Shingles for the new house or re-roofing the old home. Perhaps your building is the kind to which a really distinctive roll roofing is best adapted. Then you should select our pattern roofing, or NEPONSET Paroid, Slate Surfaced, for laying right over the worn out wooden shingles. In any NEPONSET roof, you get a real economy roof and one that provides beauty, durability and waterproof qualities at the lowest possible cost per year.

There are NEPONSET roofs which for more than twenty years have defied time and the elements—stayed useful and beautiful through the heat and rain of summer, the cold and storms of winter, and they will not catch fire from falling sparks.

There is a NEPONSET roof for every building, from the fine residence to the modest farm building. Every NEPONSET Product has back of it the manufacturing experience of one hundred and twenty-four years.

Neponset Twin Shingles Self-spacing, the only twin shingle. One man can lay them, flexible, waterproof, a solid piece of heavy felt, waterproofed with time-drying asphalt, heavily surfaced with natural rubber-chubbied roll or green slate. Application is so simple they can be applied faster than wooden shingles and with less labor.

Neponset Paroid Roofing Famously quoted of by thousands of users throughout the world as "PAROID". One of the best ready roofing made, and through all these years has built up a cumulative record of quality and long service which is unequalled. Natural red slate, green slate or grey surfacing.


Neponset Building Paper Use the greatest care in selecting the building paper. The paper must be waterproof. NEPONSET Building Papers are waterproof, tarproof, odorless and save fuel because they keep out draughts, dampness and cold.

Neponset Board (Quartered Oak Planks) If you want the enjoyment of being your own decorator and your own carpenter, use NEPONSET Board for paring, wainscoting, and ceiling your rooms. It is just the thing for office partitions, and many builders specialize in using NEPONSET Board instead of laths and plaster.

All NEPONSET Building Products—roofing, wall board and building paper—are made just as much for the honest owner who may do his own repairing as for the builder of a new structure.

BIRD & SON, Inc. 1000 Neponset St., East Walpole, Massachusetts
 New York Washington, D. C. 1427 West Main Street, Chicago, Ill. Canadian Office and Plant: Hamilton, Ont.

NEPONSET ROOFS



A recent Neponset two-page Saturday Evening Post advertisement

Plenty of Selling-Push

NEPONSET advertising is your advertising as much as it is ours.

Neponset advertising is big, vigorous and bold. It has balance and is architectural. It tells your customers facts that they want to know about building. Neponset advertising in two-color double-page and pages black and white in The Saturday Evening Post isn't going to die. Neponset Products and Quality are synonymous.

There's plenty of selling-push back of the Bird Neponset line. Write us about an agency proposition in your territory.

BIRD & SON, Inc., Dept. C (Established 1795) East Walpole, Mass.

Chicago

New York

Washington, D. C.

Canadian Office and Plant: Hamilton, Ont.

NEPONSET ROOFS

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER



right over old roofs

Things to Remember

REMEMBER that Art Craft is the roll roofing that comes in the popular shingle or tile design in slate-red and slate-green.

Remember that Art Craft is fire-safe, and laid right over the old wooden shingles.

Remember that Art Craft saves the expense and annoyance of ripping off the old roof, and that it is the true economy roof many of your customers need. Write us for facts you ought to know about Art Craft.

You are probably missing real and timely business opportunities unless you are prepared to offer your customers Art Craft. Use coupon for further information.

BIRD & SON., Inc. (Established 1795) Dept. C, East Walpole, Mass.

1472 West 76th St., Chicago

New York

Washington, D. C.

Canadian Office and Plant: Hamilton, Ont.



Art Craft Roof

BIRD & SON, INC., Dept. C., East Walpole, Mass.:—I want to know how Art Craft will bring me more business. Send complete information.

Name..... Address.....



Kno-Burn

TRADE MARK

EXPANDED METAL LATH

One Idea In This New Book

*Our KNO-BURN
Handbook of*

Fire-Proof Construction Worth Many Dollars To You

IT is cram full of detail—sketches, photos, specifications, etc.—many published for the first time.

This KNO-BURN Book is more than a mere metal lath catalog. Our engineers, etc., have spent months in compiling data that make it a *valuable* reference book. Just to give you an inkling of its character, look over this partial list of its contents:—

The Importance of Proper Foundations
Suspended Ceilings
Partitions
Responsibility of School Building
Planning Theatres for Safety

Don't they sound interesting?

And there are other chapters just as good. Almost every architect, contractor, engineer, etc., will want the "ready reference" information in this volume. Also, he will be glad to inform himself of the constantly enlarging uses of "KNO-BURN" Metal Lath in modern fire-proof construction.

Send a three-cent stamp for a copy

But do it today, for the edition is limited, and requests will be filled in the order received

**NORTH WESTERN
EXPANDED METAL CO.**

903 OLD COLONY BLDG.
CHICAGO. ILLS.

What's New

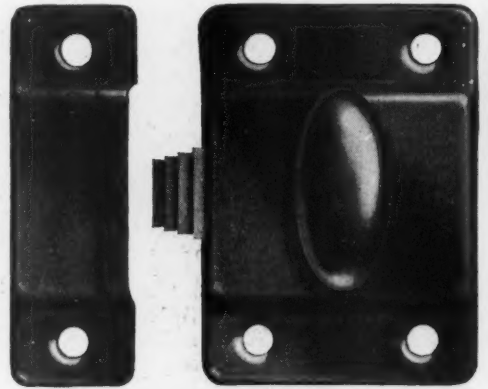
(Continued from page 68.)

mortar mixer, builder's hoist and centrifugal, piston and triplex pumps.



A Catch That Catches

There is nothing more exasperating to the owner of a home than to have a cupboard door or a window or transom that will not catch, and the builder usually comes in for the blame, however little he is entitled to it. A door may warp, the building may settle or some other unavoidable reason cause the trouble. A new cupboard latch, and window and transom catch has been devised recently that will operate even when the warp has made a difference of nearly half an inch in the original alignment.



Steps on the Plunger of This Latch Catch Even When the Door Is Warped.

As will be noted in the accompanying illustration, the plunger of this new catch is made with steps, instead of being straight. As a result the door or window or whatever the latch is attached to will catch with this step-like plunger. If the door or window does not warp, the plunger will catch in the first step. Should they warp a little the plunger will catch in the second step and so on.

As a matter of insurance against dissatisfaction builders are finding this new catch a great improvement over some of those that have been in general use for the same purposes.

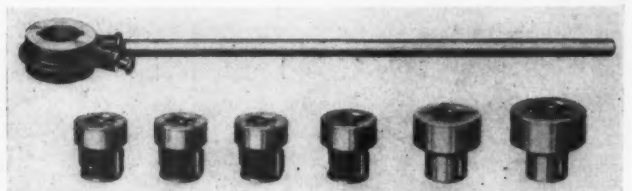


Unique Little Pipe Threader

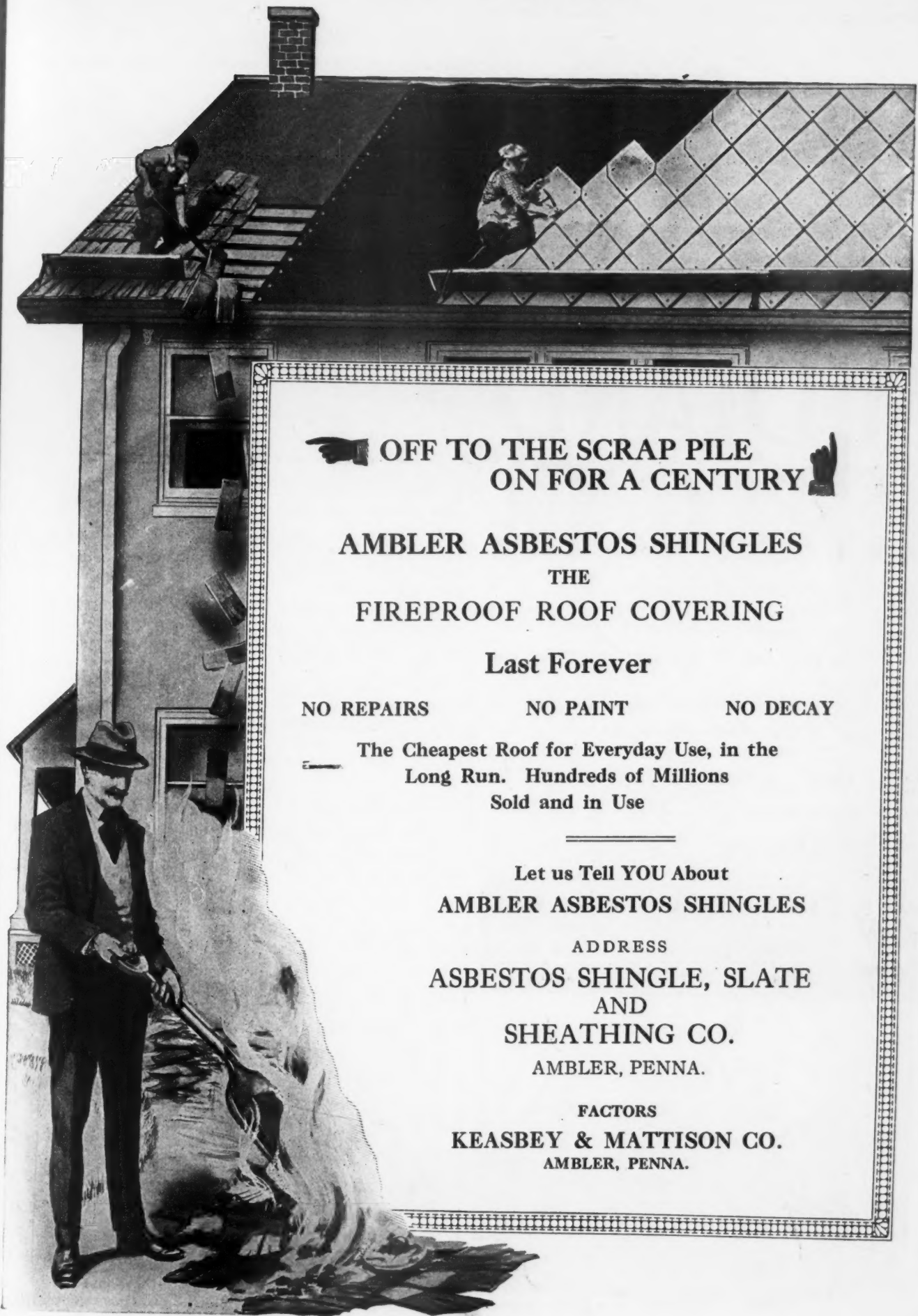
One of the tools that the builder finds considerable use for is a pipe threader of small size. Herewith is illustrated a new pipe threading device that possesses certain unique and valuable advantages. For instance, the ratchet mechanism is entirely encased, so that it is impossible for dirt or grease to accumulate and retard the action of the tool, which is an important feature.

This little device is built on the unit plan to thread one-eighth, one-quarter, three-eighths, one-half, three-quarters and one-inch pipe. It consists of a ratchet handle and die heads to thread each size of pipe. The whole outfit is attractively

(Continued to page 74.)



Ratchet Handle and Die Heads That Will Thread Pipe Ranging From One-eighth to One Inch.



**OFF TO THE SCRAP PILE
ON FOR A CENTURY**

AMBLER ASBESTOS SHINGLES
THE
FIREPROOF ROOF COVERING

Last Forever

NO REPAIRS NO PAINT NO DECAY

The Cheapest Roof for Everyday Use, in the
Long Run. Hundreds of Millions
Sold and in Use

Let us Tell YOU About
AMBLER ASBESTOS SHINGLES

ADDRESS
**ASBESTOS SHINGLE, SLATE
AND
SHEATHING CO.**
AMBLER, PENNA.

FACTORS
KEASBEY & MATTISON CO.
AMBLER, PENNA.



USE

MIDLAND TERRA COTTA

Where beauty is desired, quality and service required and "Just as good" is not good enough—

QUALITY AND SERVICE
Our motto

MIDLAND TERRA COTTA COMPANY
Lumber Exchange Building Chicago



What's New

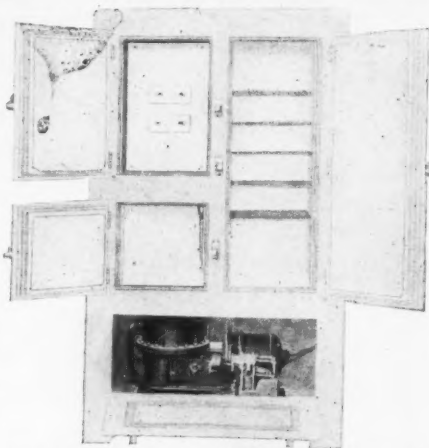
(Continued from page 72.)

finished and packed in a wooden case. It makes a practical tool for the workshop or home.



Iceless Refrigerator Holds Even Temperature

Every modern home the builder erects this year will be equipped with modern conveniences. One of the conveniences that is a necessity is a refrigerator wherein may be kept perishable foods at a temperature that will insure their preservation. Securing ice is a problem in many rural communities and the farms where a crop of natural ice is not available.



A refrigerator that solves this problem has been devised. It is kept cool by a refrigerating machine, electrically driven, located in the bottom of the refrigerator. A temperature of 40 degrees is maintained in the refrigerator by this machine.

The Modern Refrigerator, Showing the Little Machine That Is Installed in the Base and Keeps an Even Temperature. No Ice Is Required.

The system is similar to that employed in large cold storage warehouses where ammonia water is driven thru pipes, causing an accumulation of frost. These pipes are concealed in the porcelain lined walls.

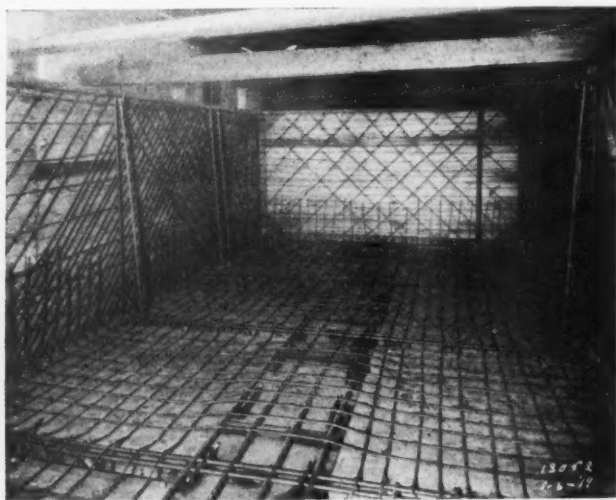
An added feature of this refrigerator is that water cubes, desserts and other frozen foods may be made in it.



A Freight Car of Concrete

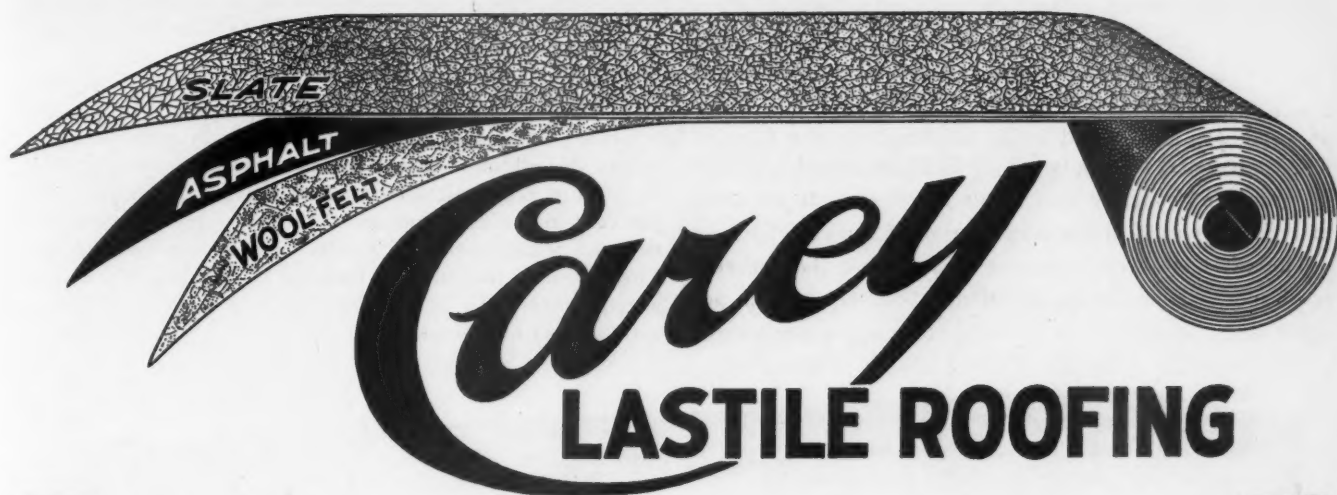
Mr. J. B. Strauss, of the Bascule Bridge Company, has designed and invented a new gondola freight car made of concrete. The car has a rated capacity of 100,000 pounds;

(Continued to page 80.)



Forms Ready and Reinforcement in Place for the Concrete Freight Car.

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER



Apply it on

Residences

Stores

Factories

Public Bldgs.

Barns

Tool Houses

Garages

Use it

also for

siding on

Poultry Houses

etc.

Surfaced with Red or Green Slate

IS DURABLE. Lastile was designed to give contractors and building owners a heavier, better, longer lasting roll roofing than they have heretofore been able to obtain.

Therefore it is made of extra heavy high-grade wool felt, manufactured in our own mills. It is thoroughly saturated with asphalt, built-up with tempered asphalt compound, and coated with enduring crushed slate.

IT IS BEAUTIFUL. The surface never requires painting, because the natural red, green or gray slate never fades and the slate itself is long wearing.

IT IS SAFE. Fire underwriters classify roofs in eight divisions according to their safety. Roofings in Classes A, B, and C, are the safest and allow the lowest rates. Lastile is in Class C.

IT IS ECONOMICAL. It costs but little more than the cheapest roll roofing and it lasts A GREAT DEAL longer. Contractors like to lay it because it "stays put" without calling for constant repairs. There is only one "comeback"—it is the comeback for more of the same when there is another good roof wanted.

For sample and particulars address

THE PHILIP CAREY COMPANY

510-530 Wayne Ave.

Lockland

Cincinnati, Ohio

UNDERWRITERS' LABORATORIES
INSPECTED
ROOFING MATERIAL

CLASS C

ISSUE No. 466

50 Branches and Distributors

Atlanta
Baltimore
Birmingham
Boston
Buffalo
Charlotte
Chattanooga
Chicago
Cincinnati

Cleveland
Dallas
Denver
Detroit
Jacksonville
Kansas City
Knoxville
Little Rock
Los Angeles

Memphis
Minneapolis
Montreal
Nashville
New Orleans
New York
Omaha
Philadelphia
Pittsburgh

Portland
San Francisco
Seattle
Spokane
St. Louis
Tacoma
Toronto
Wheeling
Washington, D. C.

What's New*(Continued from page 74.)*

it has an inside length of 41 feet 3 inches; an inside width of 9 feet 4½ inches, and inside height above the floor of 4 feet 8 inches. Its empty weight is 50,000 pounds. About 7½ yards of concrete and about 25,000 pounds of other material was used in the construction of the car.

The car has a reinforcement of steel and the concrete is of special composition, weighing about 112 pounds per cubic foot. Concrete with ordinary stone aggregate weighs

150 pounds per cubic foot. It has an average compression of 4,000 pounds per square inch.

Cement freight cars are said to be more practical than steel freight cars because of the fact that the concrete is always obtainable, which would naturally eliminate long delays in building because of inability to secure material. It is more economical because of the saving of about 25 per cent in the construction of the body of the car, and a material reduction in the maintenance of the finished car. The ordinary freight cars have to be painted, while it is not necessary to paint the concrete car, thus saving another item of expense.

FRED TELFORD.



The Finished Concrete Freight Car Ready for Its Load.

If there is anything you want—

or something you don't want—that
other readers of this paper can supply
or use—advertise in the

Opportunities Section

of the AMERICAN BUILDER

Sixteen words or less, \$1.00 an insertion. Additional words, 6c each.

Now is the time to offer good second-hand machinery for sale. Demand exceeds production for immediate delivery of same equipment—that is why the market on used equipment is so good.

Now—or any other time, use the Opportunities Section for advertising

Agents Wanted
Business Opportunities
Civil Service Opportunities
Contracts To Be Let

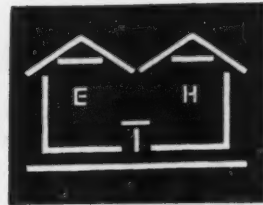
Contracts Wanted
Help Wanted
Machinery For Sale
Machinery Wanted

Miscellaneous Wants
Patents For Sale
Patent Attorneys
Positions Wanted

Representatives Wanted
Salesmen Wanted
Work Wanted
Etc., Etc., Etc.

King's County Court House Brooklyn, N. Y.

Architect—F. H. Quinby
Contractors—P. J. Carlin Const. Co.
14,000 Yards of
Berger's Expanded Metal Lath Used



METAL LATH

Because Metal Lasts

Architects, Contractors, Engineers—all men who are studying the problem of permanence in construction, appreciate the advantages of Expanded Metal Lath as backing for plaster and stucco.

An evidence of this is the growing demand for

Berger's Expanded Metal Lath

for use in buildings like the above, where permanence is an important consideration. The Berger Metal Lath Handbook contains much valuable data on building construction—Ask our nearest office for it.

The Berger Mfg. Co., Canton, Ohio

Branches: Boston New York Philadelphia Chicago St. Louis Minneapolis San Francisco

Export Dept.: Berger Bldg., New York City, U. S. A.

Members Associated Metal Lath Manufacturers

BERGER

EXPANDED METAL LATH-FLOOR CORES-REINFORCING PLATES-METAL LUMBER
STEEL FILING CASES-LOCKERS-FACTORY STORAGE BINS AND SHELVING
STEEL CEILINGS-ROOFING-SIDING AND OTHER PRESSED STEEL PRODUCTS



Further Evidence of KEYSTONE

ACTUAL time and exposure wrought these results. This is but one of multiplied instances that show the excellence of the copper-steel alloy. Every out-in-the-weather test gives practically the same results. Does it prove *rust-resistance*?



These two sheets were exposed side by side for the same length of time. They were identical in manufacture—the same gauge, and from the same heat—the only difference being the *alloy of copper*. Our booklet "*Facts*" will be of interest to all builders.

American Sheet and Tin Plate Company

General Offices: Frick Building, Pittsburgh, Pa.

DISTRICT SALES OFFICES:

Chicago Cincinnati Denver Detroit New Orleans New York Philadelphia Pittsburgh St. Louis

Export Representatives: UNITED STATES STEEL PRODUCTS COMPANY, New York City

Pacific Coast Representative: UNITED STATES STEEL PRODUCTS COMPANY, San Francisco, Los Angeles, Portland, Seattle



the Superiority of COPPER STEEL

WHEN you specify for Copper-Steel Sheet and Tin Mill products—remember *Keystone*. It signifies not only the quality imparted by the addition of copper, but the *super-quality* which comes only from experience in its manufacture.

Look for the Keystone added below the regular brands.



Black Sheets,
Galvanized Sheets,
Corrugated Roofing,

Culvert Stock,
Formed Products,
Roofing Tin Plates, Etc.

American Sheet and Tin Plate Company

General Offices: Frick Building, Pittsburgh, Pa.

MANUFACTURERS OF

Sheet and Tin Mill Products of every description, including Black Sheets, Galvanized Sheets, Tin and Terne Plates, Electrical Sheets Corrugated and Formed Roofing and Siding Materials, Special Sheets for Stamping, Keystone Hammered Polished Steel Sheets, Automobile Body Sheets, Stove and Range Sheets, Black Plate, Etc.



*for Beautiful
Woodwork*

WE LIKE TO CO-OPERATE

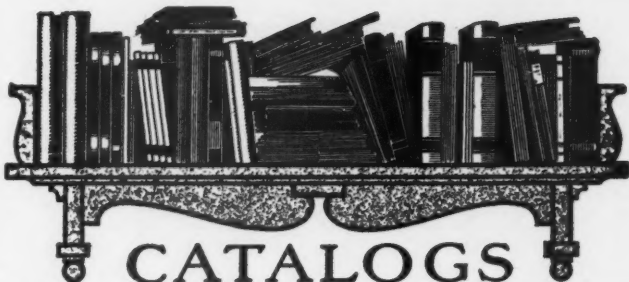
We like to co-operate with carpenters because they like to co-operate with us and like our wood. "Beautiful birch" enables them to do the kind of work which means reputation and more jobs coming.

Why don't YOU take advantage of our helping system. Send us a confidential list of your prospects (up to 25) and we will write them and send them our new book on "Beautiful birch" and six samples of the wood in six different finishes.

Glad to send book and samples to you also, of course. Just ask us.

NORTHERN HEMLOCK AND
HARDWOOD MFRS. ASSN.
201 F. R. A. Bldg. Oshkosh, Wis.

*"Handsome is as,
handsome does"*
**investigate
birch**



CATALOGS BULLETINS & BOOKS RECEIVED

The following literature, dealing with subjects of interest to builders, is now being distributed:

"Desco Metal Store Fronts," is a 16-page and cover booklet of store front designs, issued by the Detroit Show Case Company, Detroit, Mich. Accompanying the booklet are three sheets of blue prints, showing details of installing the store fronts this company manufactures.

"Homes for Workmen," is the title of a book on this subject, issued by the Southern Pine Association, New Orleans, La. The book contains 250 pages describing industrial home building projects and is well illustrated with perspectives and floor plans. This is a comprehensive work on the subject of homes for workmen.

Concrete construction of several types is described in the February, 1919, number of "Concrete in Architecture and Engineering," published by the Portland Cement Association. Methods of erecting small concrete houses of precast sections is one interesting feature of this issue, which contains 24 pages and cover.

Detail of store front and display window installation is given in portfolios, issued by the Brasco Manufacturing Co., Chicago. The drawings are reproduced on sheets and enclosed in a filling envelope, and are complete guides to putting in the store fronts this company makes.

"Dixon's Graphite Products" is the title of a new pocket catalog issued by the Joseph Dixon Crucible Co., Jersey City, N. J. While not so complete as the large general catalog, it furnishes a good idea of the variety of products made by this old concern.

"Garage Door Hardware" is the title of a 32-page and cover booklet, issued by the Allith-Prouty Co., Danville, Ill. Different types of garage door hangers and hardware are described and illustrated.

"Builders' Hardware" is the title of a 104-page and cover catalog, issued by the National Manufacturing Co., Sterling, Ill. Listed and illustrated in this large book are all kinds of builders' hardware, such as barn and garage door hangers, hinges, handles and many other items in general use.

"Distinctive Garage Door Equipment," is the title of a booklet on this subject containing 40 pages and cover, issued by the Richards-Wilcox Manufacturing Co., Aurora, Ill. The booklet contains an illustrated treatise on "Solving the Garage Door Problem," by E. J. G. Phillips, engineer of the company and descriptions of the hardware this company makes.

"Myers Garage Door Hangers," is the title of an eight-page and cover booklet describing the equipment made by F. E. Myers & Bro., Ashland, Ohio. The book is illustrated with drawings showing garages and details of garage door hardware installation.

"The Seventeenth Century Connecticut House," is the title of No. 1, Vol. 5, of the White Pine Series of Archi-

(Continued to page 86.)



Some Reasons for Specifying and Buying **Long-Bell** Trade-Marked Lumber

THE Long-Bell Lumber Company is the largest manufacturer of Southern Pine in the United States. It owns vast virgin forests of different varieties of wood and can supply the right kind of lumber for each particular use. Thirteen modern sawmills are equipped with the latest type of machinery which receives the very best of attention. All lumber and timbers bear this trade-mark:

Long-Bell

The same care is exercised in the manufacture of every grade of lumber. Each process is under the strict supervision of competent men whose chief instruction is, "Quality First." All lumber that is air-dried is soda dipped to prevent sap stain. The best of kiln-drying methods, care in piling both in yards and sheds the large well-built storage sheds, the up-to-date planning mills, and the heed given to loading—all make **Long-Bell** lumber good lumber. Add to these the fact that most of the highly skilled employees have been with the Company for long periods and consequently have an interest in producing lumber worthy of the high standard of The Long-Bell Lumber Company. These are some of the reasons why the purchase of **Long-Bell** trade-marked lumber makes a sound investment.

Specify and ask your dealer for **Long-Bell** brand.

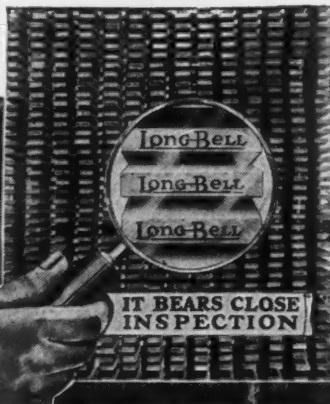
The **Long-Bell** Lumber Company

R. A. LONG BUILDING

KANSAS CITY, MISSOURI

Manufacturer of
Southern Pine
Hardwood,
Oak Flooring,
Creosoted Lumber

Manufacturer of
Creosoted Ties,
Posts, Poles,
Piling and
Wood Blocks



Catalogs, Bulletins and Books Received

(Continued from page 84.)

tectural Monographs, issued by the White Pine Bureau, St. Paul, Minn. The text was prepared by Harold Donaldson Eberlein and the illustrations are a number of reproductions of photographs of houses more than 200 years old. The monograph contains 16 pages and cover.

"Compact Concrete Homes for Industrial Workers," is one of several interesting articles on the use of portland cement in building, contained in No. 15 of Alpha Aids, published by the Alpha Portland Cement Company, Easton, Pa. An accompanying booklet, entitled "Building a Concrete Garage," contains blue prints of plans and construction details of a number of attractive garages.

"Better Heating with the Majestic Duplex Register," is the title of a 16-page booklet, issued by the Majestic Company, Huntington, Ind. The book describes, as its title indicates, the register that is a feature of the Majestic Company's pipeless furnace installation. A number of illustrations make this an attractive as well as an instructive booklet.

"Select Long Leaf Pine Structural Timbers," is the title of a 28-page and cover booklet, published by the Great Southern Pine Lumber Company, Bogalusa, La. The text describes "Bogalusa" southern pine, where it is secured and the methods of getting it into shape for building. A number of illustrations picture these operations and the company's immense plants.

Garage door equipment made by Hunt, Helm, Ferris & Co., Harvard, Ill., is pictured in an artistic album, entitled "The Way to Make Money Is to Cash in on the Demand Before the Market Is Supplied," published by this con-

cern. The album contains 14 pages of illustrations, showing garages, doors and hardware.

Woodworking machines of the small portable type that are set on the bench are described in a 72-page and cover booklet, issued by the C. O. Porter Machinery Co., Grand Rapids, Mich. Jointers, planers, wood turning lathes, carvers and cut-off saws and accessories are described and pictured.

Small electric motors of fractional horse power but powerful enough to operate small machines are described in catalog number 26, published by the Knapp Electric & Novelty Co., New York City.

"Store Display Windows That Sell Goods" is the title of a 20-page booklet issued by the Hires Turner Glass Co., Philadelphia, Pa. The booklet describes the store fronts this company manufactures and the illustrations show a number of types of store front installation.

"Taylor Clamps, an Investment, Not an Expense" is the title of a 30-page and cover booklet, issued by the James L. Taylor Manufacturing Co., Poughkeepsie, N. Y. This booklet contains illustrated descriptions of several types of quick-adjusting, self-locking clamps.

"Fresh Water on the Farm" is the title of an attractively printed and illustrated 32-page and cover booklet, issued by the United Pump & Power Co., Milwaukee, Wis. The booklet describes the National fresh water system the company manufactures and the illustrations show homes and farm buildings where this pneumatic system is in use.

"G. M. C. Trucks for Contractors and Road Builders" is the title of a 16-page and cover booklet, published by the General Motors Truck Corporation, Pontiac, Mich.

(Continued to page 88.)

BOGALUSA

The **WORLD'S STANDARD** of
EXTRA DENSE **SOUTHERN PINE**

RECONSTRUCTION
in **EUROPE** and **AMERICA**
INDUSTRIAL, RAILROAD & MARINE
"EVERY STICK IDENTIFIED."

BOGALUSA
GUARANTEED
GRADING. YES.

AS PER FACTORY
MUTUALS, A. S. T. M.,
A. R. E. A. and So. PINE ASSN.
BOGALUSA
THE WORLD'S GREATEST
AS WELL AS LARGEST SAW-
MILL. STEADY CAPACITY
1,000,000 FEET DAILY

GREAT SOUTHERN
LUMBER CO., 1600 Fourth Avenue
BOGALUSA, LOUISIANA

BOGALUSA
BOOK FREE
AUTHENTIC DATA

More and Better Service Out of Every Bundle

The builder knows that Red Cedar Shingles are a fine product, yet upon him falls the responsibility of a job well done.

A bundle of good shingles, though costing perhaps a trifle more, saves in the long run.

Building with "Rite-Grade Inspected" Red Cedar Shingles avoids two evils—waste of material and waste of time. A uniform shingle is a joy to work with.

Always use rust proof nails.



Thickness

Guaranteed full thickness when dry.

Grain

Badly cross grained shingles eliminated.

Grade

Just what the rules call for.

Seasoning

Oils essential to durability are retained.

Shingle Branch, West Coast Lumbermen's Ass'n
426 Henry Bldg., Seattle, Wash.

The Shingle Agency of British Columbia
1026 Standard Bank Bldg., Vancouver, B. C.



U. S. Sub-Treasury Building
Constructed entirely of Universal Insulite

UNIVERSAL INSULITE

The Most Efficient
Rigid Insulation

TESTS made by the United States Bureau Standards prove that one-half in. Universal Insulite—as an insulator—is 500% more efficient than ordinary wall board and 750% more efficient than ordinary lath and plaster. That's why it keeps homes comfortable, healthful—warm and dry in winter—cool in summer.

Used in Many Ways Inside and Out

The only insulating board that will stand outside exposure.

It is equally effective as a Plaster Base, as a Sheathing, as a Wall-board, as a Base for Magnesite Stucco. It is proving its insulating value in homes, garages, school's, refrigerators, refrigerator cars, ice houses, warehouses, fruit cellars, cold air ducts, incubators, etc.

Practically Waterproof

The fibres are specially treated to make them impervious to moisture. It has no capillary attraction. Prevents dampness.

Made from long wood fibers only. Clean, odorless, vermin-proof. Comes in even, uniform sheets, 32x48 inches wide 8 to 10 feet long— $\frac{1}{2}$ and $\frac{1}{4}$ inch in thickness. Handled and applied like lumber.

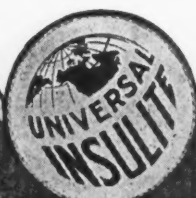
Building Material Dealers

Write for samples and full information.

International Insulation Co.

Subsidiary of Minnesota & Ontario
Paper Company

General Sales Offices:
2362 University Ave., St. Paul, Minn.
"The Board of a Thousand Uses"



Catalogs, Bulletins and Books Received

(Continued from page 86.)

The booklet is profusely illustrated with pictures of G. M. C. trucks employed on building jobs.

An iceless refrigerator that is cooled by a small electrically operated refrigerating system is described in Volume I, number I, of the Frigidaire Magazine, published by the Frigidaire Corporation, Detroit, Mich. This is an interesting and attractive 16-page publication.

Heating and Ventilating Systems for School Buildings are described in a 24-page and cover booklet, issued by C. C. Shipp & Co., Indianapolis, Ind. Contained in the booklet is a discussion of school heating and ventilating systems by Prof. C. B. Veal, of the School of Mechanical Engineering, Purdue University.

Metal lath construction is described in detail in a well-illustrated 64-page and cover booklet, entitled "Hyrib and Metal Lath," issued by the Truscon Steel Co., Youngstown, O. Detail drawings, halftone illustrations and architect's specifications for using metal lath are features of the booklet. ❖

Industrial Honor Flag of the Victory Liberty Loan

The United States Treasury Department will award the



Liberty Loan Honor Flag.

flag shown here to all business firms, industrial and civic organizations whose employes and members subscribe up to a prescribed proportion of their number to the loan. The men holding the flag are, left, Frank R. Wilson, National Director of Publicity of War Loans, and, right, J. H. Burton, of New York, originator of all the Liberty Loan Honor Flags.

This Industrial Honor Flag will be highly prized by those possessing it, as an evi-

dence of their participation in the activities directed toward the winning of the great war. ❖

U. S. Base Hospital Requests Catalogs

Manufacturers of machinery and tools and materials used in the building industry are requested to send their literature to Captain William C. Edwards, Jr., in charge of the builders' school for maimed and wounded soldiers at Fort Riley, Kan. Captain Edwards says that his department, which deals with building construction in all its branches, can use up-to-date information regarding builders' equipment and building materials in the class work at Fort Riley. The reconstruction camps at the base hospitals, where disabled soldiers are being taught various trades, are now well organized and all are doing excellent work in helping the men to become proficient in some work that they can do. Captain Edwards' address is care of the Educational Service, U. S. Base Hospital, Fort Riley, Kan.

OAK FLOORS

(that make Good Homes Better)

Money is Laying for You, Laying Oak Floors on Old Floors

EVERY OLD house with soft-wood floors is a hungry market for OAK FLOORING. Why not feed it? And the people who live in them never had as much money before to pay for OAK FLOORING. All you need to do is to —

TELL THEM HOW EASY IT IS

YOU KNOW there's hardly a woman in the land who doesn't *want* OAK FLOORS.

Yet hardly a woman in the land knows how *easily—and economically*—she can have them. No one ever took the time or trouble to explain how quickly the old soft-wood floors can be refloored with handsome OAK FLOORING of durable beauty.

WE HAVE tested it—and the ease with which this rich market can be opened is the cause of our Big National Advertising Campaign that is reaching into millions of homes in city, town and country telling everybody about OAK FLOORING. We have some practical, direct sales helps that will make it easy for you to start a building boom now, right in your own market.

KEEP YOUR eye on OAK FLOORING—your big profit-maker this year. Write for the Oak Flooring sales helps and start them coming *now*. Write for those Sales Helps. *Write.*

OAK FLOORING MFRS. ASSN.

1000 ASHLAND BLOCK:

CHICAGO:

P. S.—HAVE YOU WRITTEN YET FOR THOSE OAK FLOORING MONEY TIPS?

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

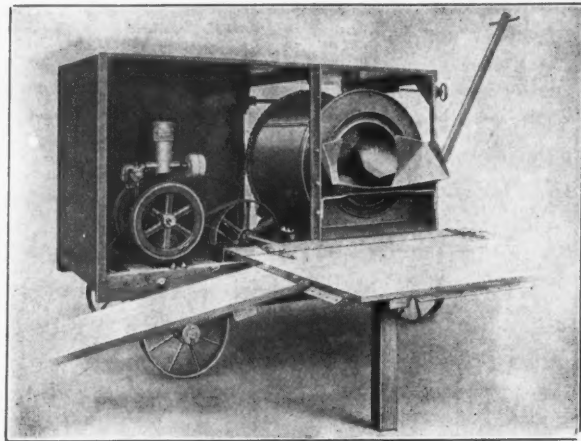


EDITOR'S NOTE: The American Builder does not accept payment in any form for what appears in our reading pages. In order to avoid any appearance of doing so, we omit the name of the maker or seller of any article we describe. This information is, however, kept on file and will be mailed to anyone interested; address American Builder Information Exchange, 1827 Prairie Ave., Chicago.

A Mixer for Small Jobs

The needs of the average contractor whose work does not run into large contracts have been supplied in the small concrete mixer shown in the accompanying illustration. This mixer has gained wide popularity among both large and small contractors because of the simplicity and the quality of the concrete it produces. It is light, easily portable and sufficiently large to take a one-bag batch of any of the standard mixes.

The simplicity of construction and ease with which renewals may be made give this mixer unusual endurance, while its ready portability gives it a broad field of usefulness.



A One-Bag Batch Mixer That Will Produce Concrete at the Rate of 6 Cubic Yards Per Hour Is a Valuable Machine to the Average Builder.

What Interests You Most in a Door?

What the mark



stands for

Up-to-Date Designs
Selected Woods
Extra Thick Veneers
White Pine Core
Wedge Dowel Construction
Quick Service
Positive Guarantee
of Satisfaction

Send today for "Morgan Millwork Handbook." Free for the asking and a handy book to have around.

First and last we believe the contractor's greatest interest in a door lies in the way the door behaves after he has properly hung it.

A door that doesn't "stay put"—that doesn't open and close freely—hurts the contractor's reputation. His customers look to him to select dependable materials and products as well as for skill in construction.

It is because we realize the importance of doors in the home—both exterior and interior—that we build them with such care.

Morgan Doors are built for lasting service. The kiln-Dried pine core and the wedge dowel construction, exclusive Morgan features, hold the doors true as long as the building lasts.

That is why we can back them with our iron-clad guarantee of satisfaction. It protects you and your customers.

The name "MORGAN" is stamped on the top rail of every Morgan Door

Morgan Sash & Door Co., Dept. 74, Chicago
Morgan Millwork Co., Baltimore
Morgan Company, Oshkosh, Wis.

Stairways to Success

The man who can build the best house, in the shortest time, for the least money—is a success.

The man who means to loom big in his local building field must be keenly alive to everything that will save time and labor—that will add efficiency and quality to his work. **CURTIS** Woodwork will do that.

Take Curtis Stairways, for example. By ordering complete stairs you avoid waste and error. We do the cutting and fitting at the factory. We build the stairs to a plan which is furnished to the man who installs them. Every necessary tongue is formed, every groove is plowed, each bit of mitering and mortising is done. Wall stringers are housed for the treads, and risers and wedges are furnished for them. All the parts of Curtis Stairways are carefully hand-smoothed.

A glance along the illustrations on this page will make clear the advantages of Curtis Stairs.

1866 CURTIS WOODWORK

"The Permanent Furniture for Your Home"

Get in touch with your nearest lumber dealer without delay and let him show you how to swell your profits by using **CURTIS** Woodwork in the houses you build. If you need any special help in surmounting your daily building problems, write to

THE CURTIS COMPANIES, SERVICE BUREAU

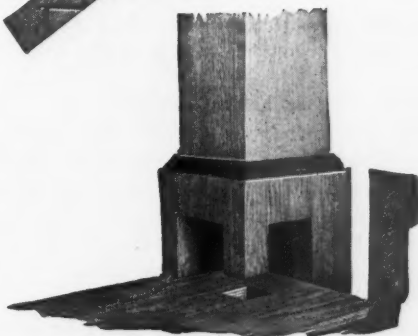
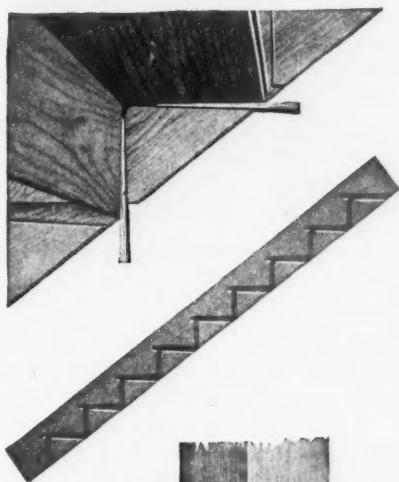
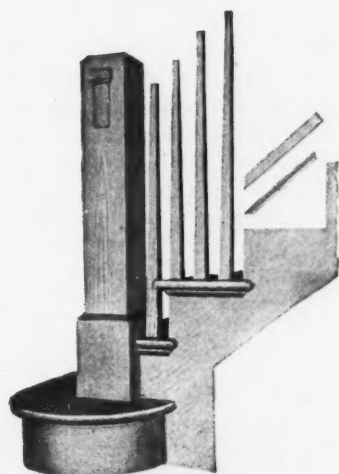
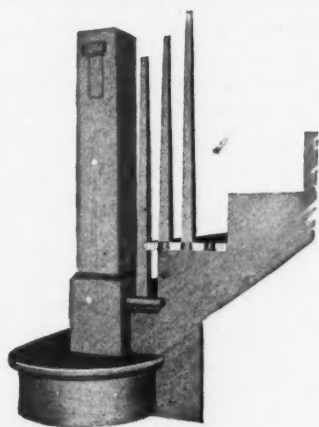
3030-4030 South Second Street, Clinton, Iowa

MANUFACTURING AND DISTRIBUTING PLANTS AT:

Oklahoma City, Okla. Detroit Lincoln, Neb. Sioux City, Iowa
Wausau, Wis. Topeka, Kan. Minneapolis Clinton, Iowa
Dayton, Ohio Chicago

EASTERN OFFICES AT PITTSBURGH AND WASHINGTON

The makers of CURTIS Woodwork guarantee complete satisfaction to its users. "We're not satisfied unless you are"





\$95 an Hour!

"Every hour I spent on my I. C. S. Course has been worth \$95 to me! My position, my \$5,000 a year income, my home, my family's happiness—I owe it all to my spare time training with the International Correspondence Schools!"

Every mail brings letters from some of the two million I. C. S. students telling of promotions or increases in salary as the rewards of spare time study. What are you doing with the hours after supper? Can you afford to let them slip by unimproved when you can easily make them mean so much?

For 27 years men in offices, stores, shops, factories, mines, railroads—in every line of technical and commercial work—have been winning promotion and increased salaries through the I. C. S. Over 100,000 men are getting ready *right now* in the I. C. S. way for the bigger jobs ahead.

Your Chance Is Here!

No matter where you live, the I. C. S. will come to you. No matter what your handicaps, or how small your means, we have a plan to meet your circumstances. No matter how limited your previous education, the simply written, wonderfully illustrated I. C. S. text-books make it easy to learn. No matter what career you may choose, some one of the 280 I. C. S. Courses will surely suit your needs.

One hour a day spent with the I. C. S. will prepare you for the position you want in the work you like best. Yes, it will! Put it up to us to prove it. Mark and mail this coupon now!

TEAR OUT HERE

INTERNATIONAL CORRESPONDENCE SCHOOLS

Box 8165, SCRANTON, PA.

Explain, without obligating me, how I can qualify for the position, or in the subject, before which I mark X.

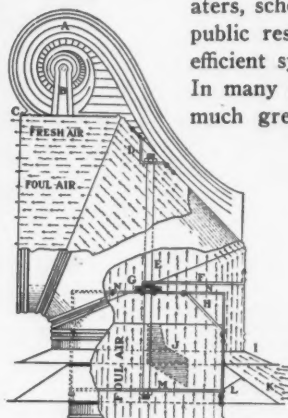
- | | |
|---|---|
| <input type="checkbox"/> ARCHITECT | <input type="checkbox"/> SALESMANSHIP |
| <input type="checkbox"/> Architectural Draftsman | <input type="checkbox"/> ADVERTISING |
| <input type="checkbox"/> Contractor and Builder | <input type="checkbox"/> Window Trimmer |
| <input type="checkbox"/> Building Foreman | <input type="checkbox"/> Show Card Writer |
| <input type="checkbox"/> Concrete Builder | <input type="checkbox"/> Sign Painter |
| <input type="checkbox"/> Structural Engineer | <input type="checkbox"/> BOOKKEEPER |
| <input type="checkbox"/> Structural Draftsman | <input type="checkbox"/> Stenographer and Typist |
| <input type="checkbox"/> Ship Draftsman | <input type="checkbox"/> Higher Accounting |
| <input type="checkbox"/> Plumber and Steam Fitter | <input type="checkbox"/> COMMERCIAL LAW |
| <input type="checkbox"/> Heating and Ventilation | <input type="checkbox"/> Common School Subjects |
| <input type="checkbox"/> Plumbing Inspector | <input type="checkbox"/> Mathematics |
| <input type="checkbox"/> Foreman Plumber | <input type="checkbox"/> GOOD ENGLISH |
| <input type="checkbox"/> Sheet Metal Worker | <input type="checkbox"/> ILLUSTRATING |
| <input type="checkbox"/> CIVIL ENGINEER | <input type="checkbox"/> Railway Mail Clerk |
| <input type="checkbox"/> Surveying and Mapping | <input type="checkbox"/> CIVIL SERVICE |
| <input type="checkbox"/> ELECTRICAL ENGINEER | <input type="checkbox"/> MINE FOREMAN OR ENGR |
| <input type="checkbox"/> Electric Lighting and Rys. | <input type="checkbox"/> Metallurgist or Prospector |
| <input type="checkbox"/> Electric Wiring | <input type="checkbox"/> Gas Engine Operating |
| <input type="checkbox"/> Telegraph Engineer | <input type="checkbox"/> Textile Overseer or Supt. |
| <input type="checkbox"/> Telephone Work | <input type="checkbox"/> TRAFFIC MANAGER |
| <input type="checkbox"/> MECHANICAL ENGINEER | <input type="checkbox"/> AUTOMOBILE OPERATING |
| <input type="checkbox"/> Mechanical Draftsman | <input type="checkbox"/> Auto Repairing |
| <input type="checkbox"/> Machine Shop Practice | <input type="checkbox"/> Navigation |
| <input type="checkbox"/> STATIONARY ENGINEER | <input type="checkbox"/> AGRICULTURE |
| <input type="checkbox"/> CHEMIST | <input type="checkbox"/> Poultry Raising |

☐ Spanish
☐ French
☐ Italian

Name _____
Present _____
Occupation _____
Street _____
and No. _____
City _____ State _____

Ventilation Important For All Buildings

The epidemic of influenza during the last winter brought forcibly to the attention of health authorities and builders the necessity of properly ventilating all buildings where numbers of people congregate. The closing of theaters, schools, churches and other places of public resort was followed by orders that efficient systems of ventilation be installed. In many instances this was done at a cost much greater than if the ventilation had



Showing How Ventilator Syphons Out Foul Air.

been provided for in the original construction. Prospective owners of such buildings as theaters, auditoriums of all kinds, churches and even large homes have learned their lesson and builders will be called on to provide proper ventilating systems when the buildings are erected.

One of the important features of the ventilating system is the ventilator on the roof. There are now manufactured many types of ventilators that pull the foul air out of the building. One of these is shown in the accompanying illustrations. This ventilator is of the revolving syphon type. It is constructed of galvanized iron, braced with bar iron. It revolves on ball bearings, making it susceptible to every change in the direction of the wind and is perfectly balanced, as one of the illustrations shows.

The detail drawing shows its construction and the method of syphoning out the foul air, thru permitting an inflow of fresh air. This ventilator is in use on large homes, stores and factories, and buildings where people congregate, such as theaters, churches, etc. The revolving portion of the ventilator is three-fourths larger than the stack, or exhaust flue.



Balance of This Ventilator Is Maintained Even with a Man in It. Ball Bearings Allow It to Turn Easily.

Thus the entire capacity of the exhaust flue is utilized for the conduct of foul air to its exit. The natural passage of the foul air upward is assured and accelerated by the course provided for the outer air currents, which pass over the mouth of the exhaust flue at increased velocity, forming a powerful vacuum, with a corresponding syphonic action. Down drafts are impossible.

A Handy Tool

A magnetized screw-driver will prove to be a handy tool in the tool box and may be easily obtained. Take a long slender screw-driver to some power house and hold it close to the dynamo until it becomes magnetized. This magnetized screw-driver will be invaluable in setting screws, especially in places which can only be reached by the use of one hand. Simply touch the groove in the head of the screw with the magnetized screw-driver and the screw may be instantly set with a few turns of the hand, as the magnet will hold the screw and so prevent its slipping.

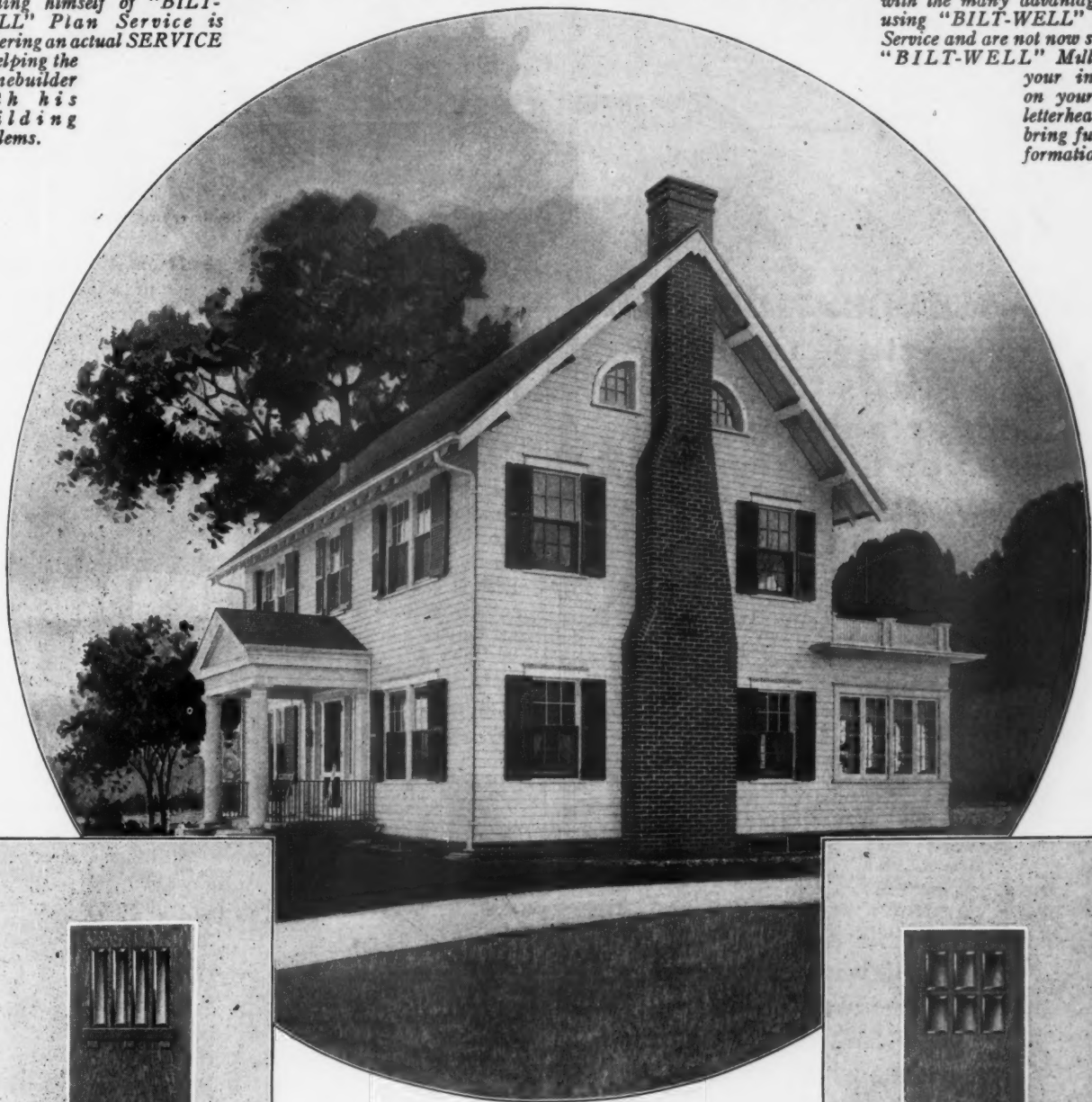
ETHEL WEBB.

"Bilt-Well" Millwork

for "Well-Built" Homes
Means Lasting Satisfaction

Building a Home is not simply a matter of selecting a plan, nor a question of materials cost. Comfort, convenience and design are of paramount importance in the usual once-in-a-lifetime event of building a REAL Home. Every Lumberman and Contractor availing himself of "BILT-WELL" Plan Service is rendering an actual SERVICE in helping the Homebuilder with his building problems.

Every Lumberman and Contractor recommending "BILT-WELL" Millwork for the interior of the Home is further serving the Homebuilder and himself, realizing that COMFORT, CONVENIENCE and lasting satisfaction is thereby assured. If you are not familiar with the many advantages in using "BILT-WELL" Plan Service and are not now selling "BILT-WELL" Millwork, your inquiry on your own letterhead will bring full information.



Design No 58
"Homes of Comfort"

BILT WELL
MILL WORK

Write to the Nearest "BILT-WELL" Millwork Distributor Listed Below

Adams & Kelly Co., Omaha, Neb.
Adams-Rogers Co., Indianapolis, Ind.
Carr & Johnston Co., Peoria, Ill.

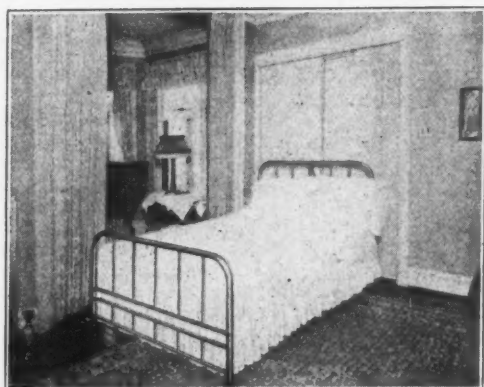
Carr & Baal Co., Des Moines, Iowa
Collier-Adams Mfg. Co., St. Joseph, Mo.
Carr, Ryder & Adams Co., Dubuque, Ia.

Carr, Cullen Co., Minneapolis, Minn.
Carr-Trombley Mfg Co., St. Louis, Mo.
Collier-Barnett Co., Toledo, Ohio

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

PORTAL BED

CUTS HIGH COST OF BUILDING



A Disappearing Bed operating in ball bearings and as comfortable as any bed you ever slept in. Perfectly concealed when not in use.

BUILDING wisdom is nine-tenths in being wise in time.

The widespread use of the Portal Bed clearly indicates the trend of the times to build efficiently and thoughtfully, giving the greatest attention to cost and comfort.

You will want our latest literature and plan suggestions for homes and apartments which we shall mail you on request.

W. L. Van Dame Co.

(Licensed Manufacturers)

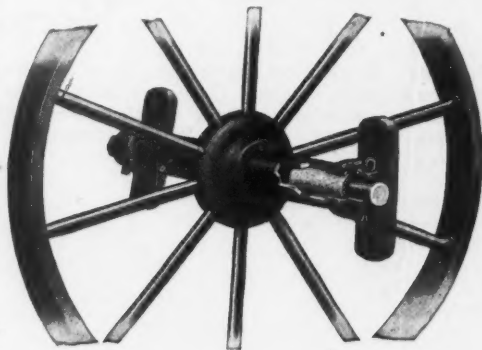
**58 East Washington Street
CHICAGO**

Home Office: MARSHALL-STEARNES CO., San Francisco, Cal.

The Portal Bed was awarded the Gold Medal at the Panama-Pacific International Exposition.

Ten Spokes in This Wheelbarrow Wheel

One of the most important pieces of equipment on the building job is the wheelbarrow. Every builder knows that without this lowly means of conveying sand, cement, stone, brick and many other kinds of material, his work would be much more difficult and expensive to perform. But while the wheelbarrow itself is important, one of the most important parts of the wheelbarrow is the wheel. For



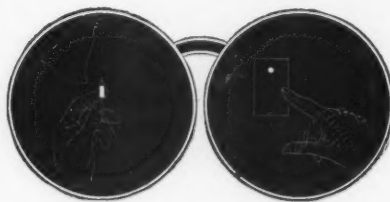
There Are Ten Spokes in the New Self-Lubricating Wheelbarrow Wheel.

the burden of the load and its mobility depends on its easy running.

Herewith is illustrated a new type of a wheel for the wheelbarrow. At first glance it looks like any ordinary wheel, but a count will reveal that it has ten spokes instead of the usual eight. The two spokes have been added to make the wheel, the first part of the wheelbarrow to wear out, more durable; in fact, this wheel will last, it is claimed, as long as the wheelbarrow itself. This wheel also has the advantage of self-lubricating bearings. The latter are made of a fibre composition which are thoroly soaked in oil. The more the bearings are worn the smoother they become and there is enough oil in them to take care of the excess friction the hardest sort of work will develop. Once they are oiled, they are lubricated for life. This adds to the life of the barrow, too, as it guards against friction and the resultant wearing out of the bearings.

Luminous Electric Light Buttons

Hunting for an electric light button or pendant in a dark room is an exasperating job. Consequently luminous



Find It in the Dark.

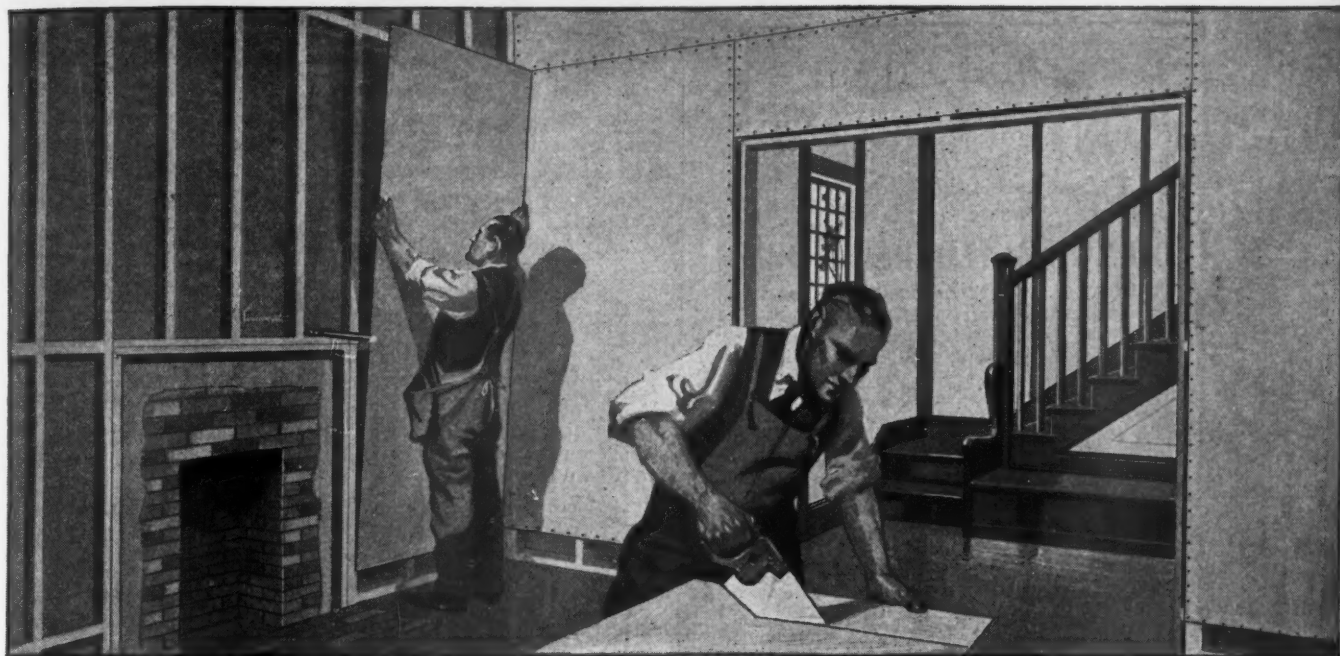
pendants and buttons have a strong appeal to the house owner. Herewith are illustrated a pendant and a button that can readily be located in the dark. And strange as it may seem, considering

the enormous cost of this material, they are made with radium—not of, but with radium.

The process of producing this material is exceptionally complicated, but it suffices to say that the particles of radium used in the manufacture are infinitesimally small. The luminous material with which the buttons and pendants are treated, however, is declared to retain its luminescence permanently.

BRING your problems to the Correspondence Department of the AMERICAN BUILDER. Thousands of keen minds watch this department every month. And from them what seems hard to you will be made easy.

WHEN you discover a new and practical method of doing some part of the job, pass the "find" along to the other members of the AMERICAN BUILDER family thru the Correspondence Department.



Let Your Carpenters Put Up the Walls and Ceilings Too

While your carpenters are on the job, have them build the walls and ceilings too. Walls and ceilings that won't crack or fall like plaster but which "stay put" as long as the building lasts.

Given a good wallboard like Black Rock, your carpenters can get any number of beautiful decorative effects.

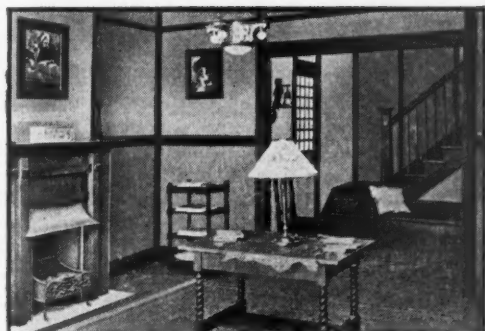
Black Rock Wallboard is a strikingly distinctive board. It's the only wallboard with the moisture-repellent black center, and is surface-sealed and sized front and back.

To be sure of a wallboard job that will bring repeat business through continued satisfaction, look up the Black Rock dealer in your locality.

Sample of Black Rock Wallboard cut from stock and full details of our plan service, sent on request.

THE BLACK ROCK WALLBOARD COMPANY
66 Ontario Street Buffalo, N. Y.

Dealers—Write for details of our exclusive sales plan.



BLACK ROCK WALLBOARD

BLACK CENTER

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

PLASTERGONTM WALL-BOARD

(See how this 10-foot panel stands straight without bending! Send for actual photo.)



DO YOU BUILDERS KNOW

That by using this scientifically sized and cured waterproof wall board, you not only save time in covering wall space, and eliminate all the delay, expense, and muss of the Plasterer, but you are enabled to finish your building far more satisfactorily—and with individuality and novelty in color and design effects. In addition to these advantages it enables you to realize a handsomer profit than you can possibly enjoy with any other wall covering that can boast one-half as much quality.

There Is But One "Plastergon"

It is composed of the choicest Northern Spruce fibre; each board is then carefully seasoned and cured in our plant; and last, it is individually treated and every pore sealed by a scientific process of sizing—(sheds water like a duck's back). That is the reason why it resists all atmospheric conditions, though it be nailed upon green studding there can be no trouble—only satisfaction—endurance—beauty.

Samples and our "Contractors' Practical Working Guide" sent free. Send the name of your Lumber or Builders' Supply Dealer. Write today.

Plastergon Wall Board Company

Manufacturers of the
"Quality" Board—Plastergon
Dept. A. BUFFALO, N. Y.



FiberlicTM Wall Board FiberlicTM Wood Grain Panels

The material from which it is made, the fact that the pulp is chemically cleansed and that the fibre lengths give the finished product that natural reinforcement that is lacking in ground wood boards, is in itself a guarantee of the superiority of Fiberlic from strong, permanent, economical and sanitary construction.

McAndrews & Forbes Company
200 Fifth Avenue, New York City
Factory: Camden, N. J.

Silo Building*Profitable

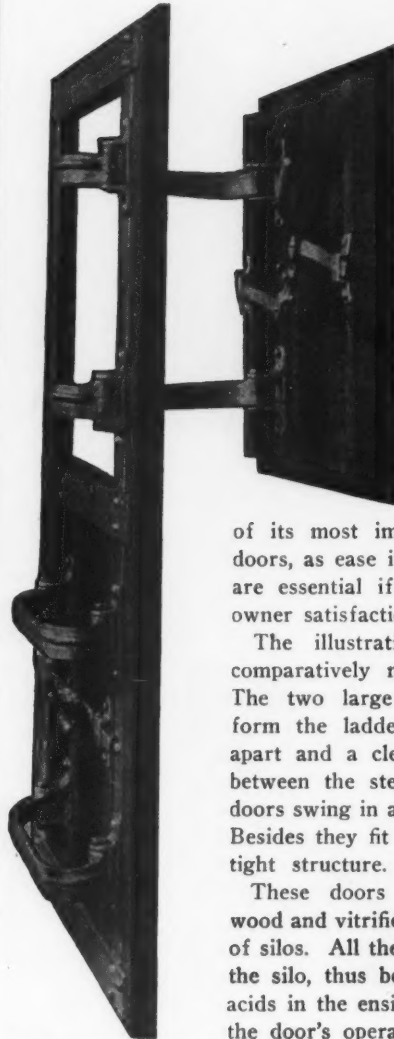
Silos will be in great demand among the farmers this year. The facts that one-third of the feed value of corn is in the stalks and that every bit of food for the livestock is now so valuable that it must be saved will cause a greatly increased demand for silos.

Builders and lumber dealers who are in touch with the farm building field already are preparing to meet this demand and are getting in touch with the manufacturers of silo materials and equipment. Erecting silos has proven a profitable part of the building and material business and the chances to cash in on them are not being overlooked.

No matter of what kind of materials the silo is constructed one

of its most important features is the doors, as ease in filling and emptying it are essential if the silo is to give its owner satisfaction.

The illustration herewith shows a comparatively new type of silo door. The two large malleable iron hinges form the ladder with steps 15 inches apart and a clearance of seven inches between the steps and the door. The doors swing in and always are workable. Besides they fit tightly, insuring an air-tight structure.



Malleable Iron Hinges of This Silo Door Form the Ladder with Steps 15 Inches Apart.

These doors are installed in both wood and vitrified tile, two popular types of silos. All the metal parts are outside the silo, thus being protected from the acids in the ensilage. The simplicity of the door's operation permits the operator to open and close it with one hand while he is standing on the ladder. The doors are firmly attached to the steel frame, making the door a part of the silo.

Preaching the gospel that a silo not only insures its owner an abundant supply of nourishing feed for his livestock in the winter, but also saves about one-third the acreage required to produce food for his animals will bring many silo building jobs this year.



Paint Your Screens

The time is fast approaching when the fly swatter will have to be rescued from its winter hibernation; also the fly screens will have to be fitted up for their summer service. What would we ever do without the swatter and the screen?

But it wouldn't be so necessary to "swat the fly," bat the mosquito and chase the festive bug if the fly screens were protected from rust by an application every spring of a good screen paint; neither would it be necessary to buy new screens so often. It is merely another case of a stitch in time saving nine; only in this case it is a few cents' worth of paint saving several more cents' worth of new screen and the bother of putting it on the frames.

UPSONIZING-- the Link that Connects You with the whole Job!

You build everything from the wall up. Why lay off after erecting the frame work and then return to put in the time after the plasterer has finished? Upsonizing is the link that will connect you with the whole job. You can build the frame-work, the walls and ceilings, and the trim, and turn a "complete" job over to your customer. You can make ALL the profits and keep on the job continuously.



UPSON-BOARD

PROCESSED

THE MOST DEPENDABLE BOARD MADE IN AMERICA

You can safely recommend UPSON Processed Board—the board that looks, feels and works like lumber. Your men will feel at home using it because of its **woodlike** character.

Wall Board Makes Ideal Walls and Ceilings

Wall Board is the nearest perfect lining for walls and ceilings, but there is just as big a difference in the quality of wall board as there is in the quality of different kinds of lumber—or plaster—or steel ceilings. The kind or grade you use determines the satisfaction of the finished job.

UPSON Board is "made good" to "make good." It has the unequalled reputation of **less** than one complaint to every 3,000,000 feet sold and used.

Harder, Stiffer and Stronger Than Other Boards

Most wood pulp boards stand a breaking strain of only 200

to 230 pounds to the square inch. 3-16" UPSON Board stands a test of nearly 400 pounds to the square inch. It is, therefore, almost **twice** as strong as other wood pulp boards.

This great hardness, stiffness and strength of UPSON Processed Board means **less waste** in fitting and handling. It also means **greater ease** and **greater accuracy** in cutting. It means that UPSON Board will not pull from the nails as do soft, spongy, weak boards. UPSON Board "holds" to the nails when other boards pull as the framework may shrink or settle.

If you **UPSONIZE** you will leave behind a satisfactory installation that will build good will and new business for you.

It will be money in your pocket to become known as the **UPSONIZING** expert of your town.



Trademark registered
U. S. Patent Office

There are many other proofs of UPSON superiority. They are all given in our New and Interesting book "WHY I BECAME AN UPSON-ING EXPERT AND HOW IT PAID ME." In this book, a live-wire contractor tells how he became sold himself on UPSON Board—how he started to UPSONIZE—and the jobs and profits his UPSONIZING brought him. By all means get this book. Benefit by this contractor's experience. Make good on UPSONIZING in YOUR town.

THE UPSON COMPANY
Fiber Board Authorities
LOCKPORT, NEW YORK, U.S.A.

THE
UPSON
COMPANY

81 Upson Point,
Lockport, N. Y.

Send me your book, "WHY I BECAME AN UPSONIZING EXPERT AND HOW IT PAID ME"—showing how I can increase my business by Upsonizing—also a sample of Upson Board for inspection and comparison.

Name.....

Address.....

LOOK FOR THE BLUE CENTER



NEWS OF THE FIELD

La Salle Portland Cement Co. Plant Sold

The plant at La Salle, Ill., of the La Salle Portland Cement Co., formerly the German-American Portland Cement Co., was sold March 11 to A. Y. Gowen, vice-president of the Lehigh Portland Cement Co., Charles Voettcher, president, of the Cement Securities Co.; A. C. Dustin, of the Sandusky Cement Co., and C. H. McNiden, president of the Northwestern States Portland Cement Co. The sale was made by representatives of A. Mitchell Palmer, U. S. Alien Property Custodian, who took over the plant a year ago. The sale price was \$1,287,000.



Carter Quits as Metal Lath Commissioner

Zenas W. Carter has resigned as commissioner of the Associated Metal Lath Manufacturers and has become secretary and manager of an association of manufacturers of machinery for handling materials. Previous to his connection with the metal lath association, Mr. Carter was field

secretary of the Granite Paving Block Manufacturers' Association. The new association will co-operate with the government in establishing efficient freight handling methods at both railroad and ocean terminals.



Distributes Twenty Percent Bonus on Salaries

Many progressive business organizations have adopted one or another form of profit-sharing plan for employees. Few, however, have shown so great liberality in this respect as the H. W. Johns-Mansville Company, who will distribute to all salaried employees—men and women—from heads of branches and departments to office boys, who have been in continuous service for the full calendar year 1918, an extra compensation of 20 per cent on the salaries paid them during 1918.

This extra compensation for 1918 will cost the company approximately \$1,000,000.



American Lumber Congress Draws Noted Speakers

"Problems of Railroad Transportation" will be the subject of the address to be given by Walker D. Hines, Director-General of Railroads, before the American Lumber Congress at its morning session April 16 in Chicago.

Edward N. Hurley, Chairman of the United States Shipping Board, is also expected to address the congress on "American Ships for American Goods."

Other notable speakers will be ex-Senator Joseph Bailey of Texas, with "Ideals that Made America" as his subject; William S. Culbertson, of the United States Tariff Com-

(Continued to page 100.)



The Genuine



Trade Mark Registered, U. S. Patent Office, No. 94745

is the **only** wall board made with a center core of kiln-dried wood slats. Not a pressed imitation wood, but nature's own product in its most useable form. It saves time in construction—proves more satisfactory. It keeps out cold, heat and moisture, does not chip or mar from knocks. Won't buckle, shrink or crack. The name is printed on every four feet—see that you get the genuine Compo-Board. Write for sample and interesting booklet.

The Compo-Board Co.,

5777 Lyndale Avenue North
MINNEAPOLIS, - MINN.

Cornell-Wood-Board

Excels for Walls, Ceilings and Partitions
Repairs Alterations or New Work

For quality repair and a teration work, show your customers that Cornell-Wood-Board is unequalled. Will not warp, crack, chip or buckle and nails direct to the framework or over the old walls. Easily put up and lasts a lifetime. Resists heat, cold and moirture and is ideally adapted for the walls and ceilings of Homes, Garages, Stores, Offices, Farm Buildings, Industrial Housing, Factories, etc. Increase business and make friends by recommending Cornell-Wood-Board.

Write for Free Samples, sent on request

Cornell Wood Products Co. 173-175 W. Jackson Blvd.
Dept. 104 CHICAGO



Crex Columns

Overcome all the objections to the old style wood columns. They are fire-proof, occupy much less space than a wood column, interfere less with light and with circulation of air, are neater, more sanitary, up-to-date in appearance, costing less in the long run than wood.

The Crex Column consists of a steel shell filled with the highest grade of concrete.

Especial care is taken in filling these columns so that the concrete filling shall be perfectly solid and uniform throughout. A special formula is used and the filling is done under hydraulic pressure.

Write us Today for descriptive catalog

Crex Patent Column Co.

2300 S. Springfield Ave.

CHICAGO

Beaver Board Experience Proves Beaver Board Worth

J. F. Bradley knows Beaver Board from *experience*. He has used it for attics, he has used it for covering up defective walls and ceilings in old buildings, he has used it for new buildings, in "beamed ceiling" rooms and the plainer kind as well, he has used this crackless, knotless manufactured lumber for many kinds of public buildings and whenever he has used it, Beaver Board has *made good*.

In Mr. Bradley's own words, "*Nothing equals it for speed, style or price.*"

Some of the many good qualities Mr. Bradley has found in this good lumber product are described in his letter. Just as experience has proved the worth of Beaver Board to many contractors and builders the country over, a single trial will prove its worth to you.

Let us send you decorative suggestions for the Beaver Board treatment together with other interesting and helpful literature.

THE BEAVER BOARD COMPANIES

59 Beaver Road

Buffalo, N. Y.

Branches in Boston, New York, Baltimore, Cleveland, Detroit, Chicago, Minneapolis, Kansas City, San Francisco, Ottawa, Can., and London, Eng.

Manufacturers also of Beaver Greenboard and Beaver Blackboard

Distributors in principal cities, dealers everywhere.

You can't expect Beaver Board results unless this trademark is on the back of the board you buy.



J. F. BRADLEY
Contractor and Builder
Bridgeport, Conn.

Beaver Board Companies,
Gentlemen:

Beaver Board cannot be equaled for the attic room, for new ceilings and side walls in old buildings, the beam ceiling in the living room, dining room, or public building. Nothing equals it for speed, style or price.

Having used a great many thousand feet of Beaver Board in all kinds of construction, I have found that it fills a long felt want, saving all the labor and cartage to and from a plastering job, also the cleaning up of wood-work and floors. There is no other material on the market that will compete with it or get returns as quickly.

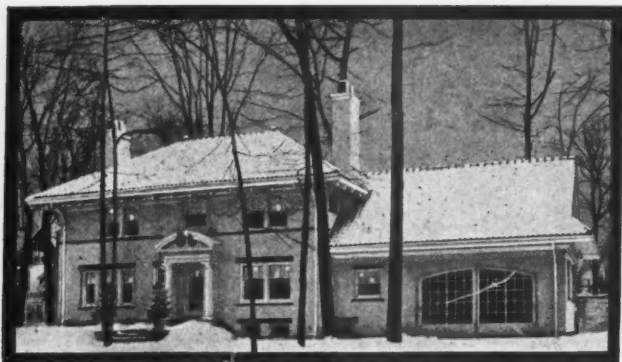
Yours very truly,

J. F. Bradley

BEAVER BOARD

FOR BETTER WALLS & CEILINGS

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER



Protection and Perfection

Bay State Coating is a lotion for walls that gives them beauty that is more than skin deep.

For homes built of concrete, brick or stucco "Bay State" is like a touch from the Fairy's magic wand. Your home will step forth from the rank and file of houses, clothed in a delightful tint of pure white, if that is your preference.

Bay State Brick and Cement Coating *runs* right into the pores of the walls and becomes a part of them. It's an absolute waterproofing.

Give your house a new lease on life. Let us send you a sample of the tint you desire and our Book No.20. Then you can plan your color scheme.

BAY STATE CEMENT CRACK FILLER is the first-aid treatment for walls that crack. It is easily applied and not detectable.

WADSWORTH, HOWLAND & CO., Inc.
Paint and Varnish Makers

BOSTON, MASS.

New York Office: Architects' Building
Philadelphia Office: Weightman Bldg.
1524 Chestnut St.

BAY STATE BRICK AND CEMENT COATING



WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

News of the Field

(Continued from page 98.)

mission, who will speak on "Our International Commercial Policy," and Burwell S. Cutler, Chief of the Bureau of Foreign and Domestic Commerce, whose subject is scheduled to be "The Opportunity for Foreign Trade in Lumber." "Trade Organization in American Industry" will be William B. Colver's topic, Mr. Colver being Chairman of the Federal Trade Commission; and the congress is also fortunate in having as one of its speakers Henry S. Graves, of the United States Forest Service, who will speak on "A National Lumber Policy."

Among the advertising experts who have accepted an invitation to address the congress is Charles Coolidge Parlin, Director of the Research Department of the Curtis Publishing Company. "The Economics of Advertising" is Mr. Parlin's subject. John B. Crosby, of the Crosby-Chicago Company of Chicago, will speak on "Harnessing the Advertising Forces of the Industry."

Aside from the eminent speakers mentioned on the program of the congress to be held April 14 to 17 and of the annual meeting of the National Lumber Manufacturers' Association are representative lumber men from all parts of the country.



Death of Elmer J. Rocke

Elmer J. Rocke, Jobbing Sales Manager for The Meadows Manufacturing Company, Pontiac, Ill., died at his home Feb. 16, 1919, after a brief illness with influenza; age, twenty-six years. He leaves a wife and little daughter, four years old. He was the oldest son of John Rocke, president of the company. Mr. Rocke was a young man of sterling qualities and esteemed by all who knew him.



Elmer J. Rocke.



Reduced Wages Not Necessary to Resumption of Building

That a reduced wage scale is not an indispensable preliminary to resumption of activity in the building trades is the opinion of Morton Chase Tuttle, who has just returned to Boston after more than a year of service as production manager for the United States Emergency Fleet Corporation. Mr. Tuttle bases his judgment on some very recent investigations of large construction enterprises located at various points from New England to Florida, supplemented by careful studies carried out under his direction by the Aberthaw Construction Company of Boston, of which he is General Manager. These unmistakably indicate that increased efficiency of labor is bringing down costs even while wages remain at existing altitudes.

"In the course of viewing numerous undertakings more or less closely associated with interests of the Government," says Mr. Tuttle, "I have lately been impressed to find the statement commonly made that costs of operation are beginning to show a noticeable decline. And this, almost without

(Continued to page 102.)

KELLASTONE

IMPERISHABLE STUCCO

THIS is the Age of Stucco—everywhere builders are sold and sold well on Stucco Construction.

Now is the opportune time to dominate this big business by specializing on KELLASTONE—the original, all mineral magnesite stucco that doesn't contain a particle of lime, gypsum, or portland cement. Get one KELLASTONE house completed and you then and there start an endless chain of profitable business.

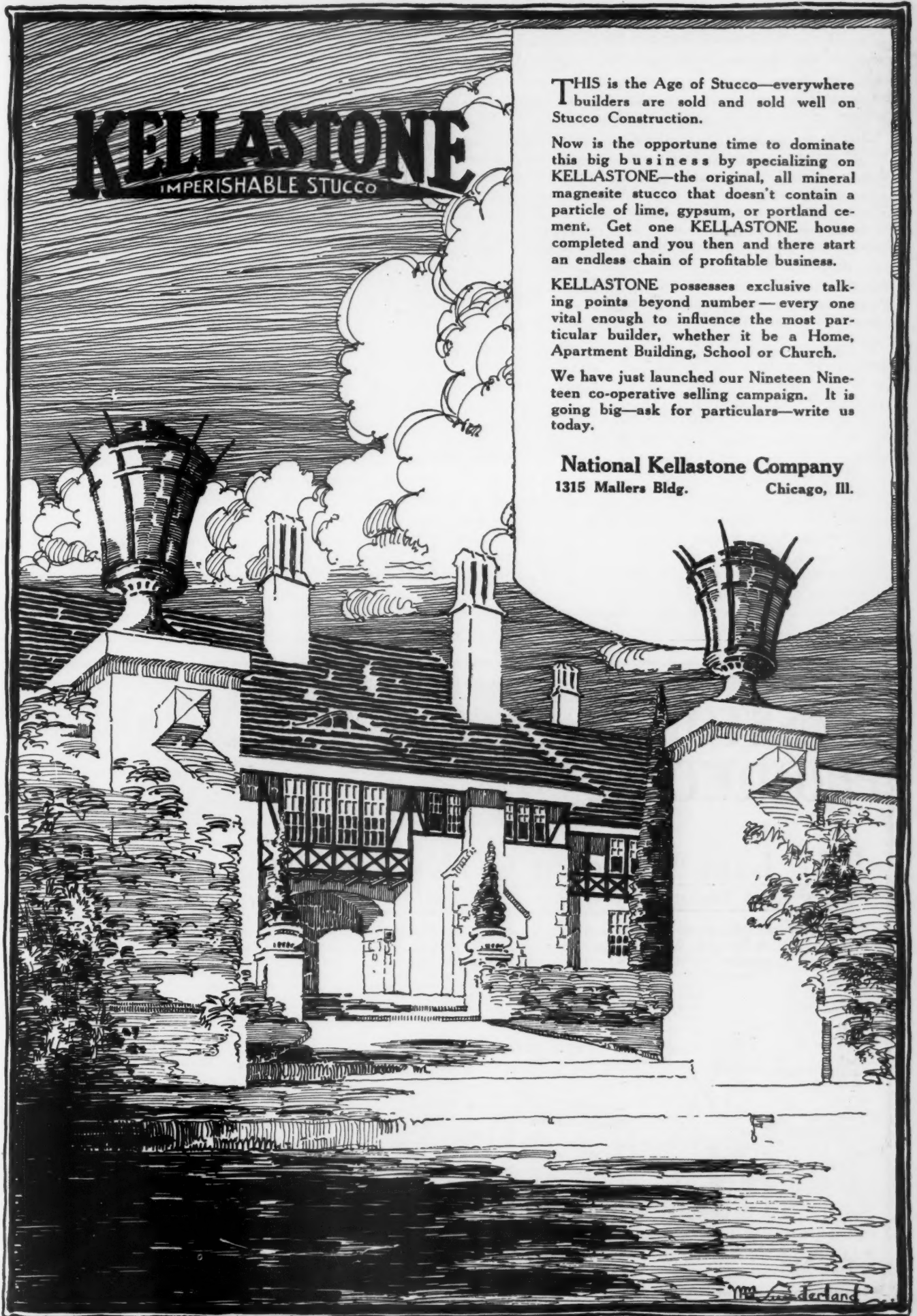
KELLASTONE possesses exclusive talking points beyond number—every one vital enough to influence the most particular builder, whether it be a Home, Apartment Building, School or Church.

We have just launched our Nineteen Nineteen co-operative selling campaign. It is going big—ask for particulars—write us today.

National Kellastone Company

1315 Mallers Bldg.

Chicago, Ill.



News of the Field

(Continued from page 100.)

exception, was attributed to increased efficiency of the labor force, due in part to the opportunity for weeding out the less dependable workers, in part to the growing desire of all members of the force to retain their jobs.

"Owing to inadequate or otherwise unsatisfactory cost systems maintained in connection with most of these undertakings, I found it impossible fully to check the statement by actual figures." Accordingly, I asked my own company to make out the cost of any one process in an operation continued over a period of several weeks. That which was selected was a piece of concrete work; the costs studied were those for the common labor employed on this work from Jan. 7 to Feb. 4 of the present year inclusive. During this period the wage scale remained unaltered; but the personnel of the labor force underwent frequent changes.

"A graph of the labor cost of the work during the period noted shows a sharp and almost undeviating decline from day to day. On Feb. 4 these costs were exactly 50 per cent less per unit than were those of Jan. 7. It is my belief that the experience of my company is by no means isolated; and that in almost any labor force there lies the opportunity of realizing economies ranging from 20 to 50 per cent without interfering with the wage scale.

"This implies, of course, that there is now increased opportunity for selecting men according to their suitability for a given task, and an increased eagerness on the part of the men to make good. But this is as it should be; and the whole country ought soon to feel the effect of it in general improvement at all points. It is a case of supplying a so-called *liquidation of labor* by proper adaptation of labor as a

means of keeping the cost of doing things within the bounds of utility.

"And in this connection it may well be urged that state of mind is often as potent a factor in ultimate labor costs as is the rate per hour. Any one experienced in handling workmen has recognized the difference in output between a cheerful capable man, anxious to hold his place, and one who is a little disgruntled, and quite conscious that he can get another job the moment he drops the present one. Multiply either case by thousands of individual instances and I believe that there will be found, in shifts of mental attitude, the explanation of much of the variation which occurs in unit cost. And this, after all, is the element of labor which directly affects the profits of the employer."



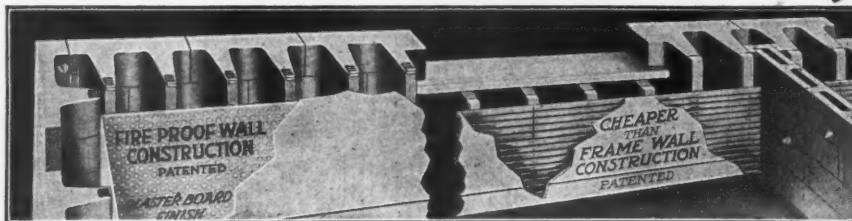
Bird & Son Win Patent Suit

The U. S. Circuit court of the Second district, rendered a decision in January holding valid the patents of Bird & Son, East Walpole, Mass., covering design or print roofing and issued an injunction restraining the Elaborated Ready Roofing Co., of Chicago, from infringing on them. "Before the suit was started," says P. R. Allen, vice-president of Bird & Son, "we did everything humanly possible to avoid this long, expensive litigation. We fought for a principle. Now we have won, we propose to treat all infringers, including the Elaborated Ready Roofing Co., in the fairest way possible."



EXTRAVAGANCE rots character; train youth away from it. On the other hand, the habit of saving money, while it stiffens the will, also brightens the energies. If you would be sure that you are beginning right, begin to save." —(Theodore Roosevelt.) Buy W. S. S.

SYNSTONE PRODUCTS

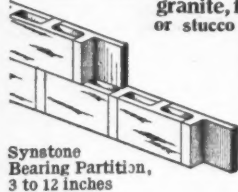


This SYNSTONE SINGLE WALL is being used for rebuilding Halifax.

The Last Word in CONCRETE Construction

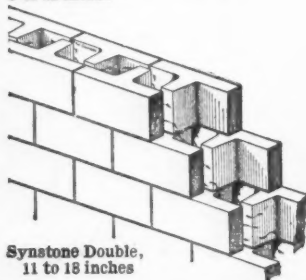
Costs Less Than Any Other Practical Wall Construction

Wet process, making real Concrete walls, impervious to heat, cold and moisture, fireproof and everlasting. Hollow Concrete Walls, stronger than brick, faced with beautiful natural material—crushed granite, feldspar, marble or sandstone, with all the sparkle and life of natural stone. Brick or stucco facings if desired. A wet, soggy mixture, 1 cement, 2½ sand and small gravel, 4 parts or 1" stone or gravel, producing stone withstanding 3000 lbs. pressure per sq. inch and 1700 degrees heat for one hour without injury. Complete machinery making all walls and all shapes and sizes of blocks required for them, by simply hooking on another core. Every block perfect with true edges. Unskilled labor, one, two or three men, capacity 50 blocks or 100 sq. feet per hour.



Synstone Bearing Partition, 3 to 12 inches

SYNSTONE SINGLE WALL—½ as much material and labor as in any other concrete wall



Synstone Double, 11 to 18 inches



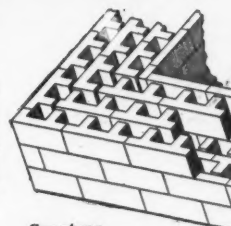
SYNSTONE MACHINE

Send for catalog.

Equip Yourself to Meet any Competition Offered

The Ferguson Synstone Company

801
17th St., Denver,
Colorado, U.S.A.



Synstone Wide Wall, 19 to 60 inches



Synstone Brick Veneer Wall, 13 to 17 inches



*Cottage with a Brush Coat Finish of Medusa Waterproofed White Cement
Circle City Construction Co., Indianapolis, Builders*

Always White and Clean

STUCCO buildings can be made permanently beautiful—proof against the discolorations and chippings that so often mar the architect's masterwork.

Beating rains and sudden frosts will not affect stucco if the cement used is thoroughly waterproofed. Hair-cracks will be avoided, ugly stains will be impossible.

For all your stucco buildings, specify



MEDUSA
WATERPROOFING
PATENTED



The original integral concrete waterproofing. It is mixed, in powder or paste form, with the sand and cement of the stucco. It permeates the pores of the stucco, destroys capillary attraction and so makes the exterior coat absolutely watertight.

"Medusa Waterproofing" is a booklet of interest to contractors.
It explains the theory and practice of water-proofing concrete.

WRITE FOR A COPY TODAY

The SANDUSKY CEMENT COMPANY

Department C. Cleveland, Ohio

Also manufacturers of Medusa Gray and White Portland Cement—Plain and Waterproofed.

MEDUSA WATERPROOFING



LEHIGH

The National Cement

MILLS FROM COAST TO COAST

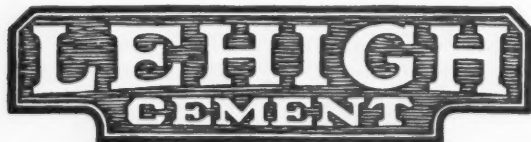
FROM the shores of the East, to our sunset states, stretch the Lehigh Mills. No other cement company has its history so closely incorporated by location and development with all the various sections which make up our nation; none other can even claim any share in the title, "The National Cement."

Recent events have shown us our national possibilities with all sections working as one. What is true of the nation holds equally true of organizations not bound within the narrow limits of any one locality. Not one mill, but a battery of Lehigh Mills, at a moment's notice can fill your needs.

Ask Your Dealer for Lehigh

LEHIGH PORTLAND CEMENT COMPANY

Allentown, Pa. Chicago, Ill. Spokane, Wn.



Advice for Painters

THE selection of the color for a dwelling or other structure is a matter that depends largely upon the good judgment and taste of the owner, combined with the advice of the painter," says Henry A. Gardner of the Institute of Industrial Research, Washington, D. C., in a bulletin entitled "Painting and Finishing Wood Buildings, Inside and Out," which recently was published by the Engineering Bureau of the National Lumber Manufacturers' Association, Chicago, as Technical Letter No. 14.

"One point, however," continues Mr. Gardner, "should be impressed on the minds of both, namely, that practically all shades or tints made upon a good white paint base, thru the use of permanent tinting colors, will better withstand exposure to the atmosphere than the white base used alone.

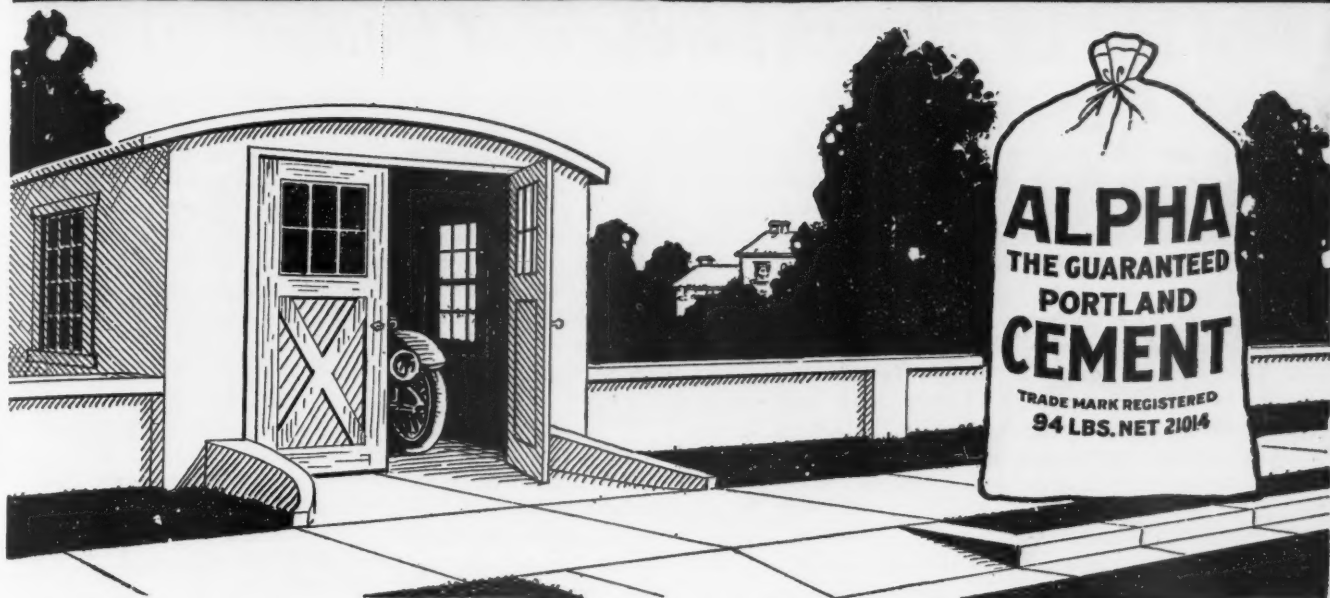
"Prepared paints, contained in sealed packages, are the most economical and convenient," says Mr. Gardner, and cites the prepared paint specifications of the U. S. Army as the proper composition. The majority of the high-grade paints sold by dealers approximate these specifications, which follow:

"The paint must be furnished in prepared form, ready for application. White paint must contain not less than 65 per cent of pigments, the balance to be liquids. The liquids shall consist of pure raw linseed oil, containing a total of not over 10 per cent of turpentine and turpentine drier. The pigment portion of the paint shall consist of white lead (basic carbonate of basic sulphate) and zinc oxide. There shall not be less than 25 per cent nor more than 50 per cent by weight of zinc oxide. Paints of this composition containing, in addition, not over 15 per cent by weight of such white pigments as barytes, china clay, whitening, asbestine, and silica will be accepted under these specifications."

"A paint in prepared form, ready for application, will have an average spreading rate of about 900 square feet per gallon, when figured for one coat on wooden surfaces. In estimating the amount of paint required for a surface, the total number of square feet should be calculated by multiplying the width by the height of each side. The total area should then be divided by 300, which will give approximately the number of gallons required to produce three-coat work. For instance, if the total area for the four sides of a house is 6,300 square feet, 21 gallons of paint will be required for the work. The cost of the paint may be figured by multiplying the number of gallons required by the current market price of the paint. To the total may be added the cost of brushes, ladders and incidentals. It is readily seen, therefore, that the cost of the paint is a small part of the cost of painting, and for this reason only the best paint should be used in order to secure a job that will last for the longest time without repainting."



THE correspondence department is for you. Use it.



Now is the Time to Build That Fireproof Garage—

Let us send you a supplement on concrete garages that is a part of issue No. 15 of our magazine ALPHA AIDS. This supplement is illustrated with views of a dozen garages of good types and valuable working details are given on a number of these, as well as additional details of attractive garage runways and driveways.

The ALPHA series of blueprint SERVICE SHEETS and bulletins is now an extensive one covering a long list of concrete work as follows:

| | | | |
|--------------------|------------------|-----------------------|---------------------------------|
| Workingmen's Homes | Spring House | Barn and Silo | Garden Furniture |
| Walkway | Small Dam | Corn Crib | Greenhouse |
| Driveway | Milk House | Storage House | Coal Pocket |
| Roads | Ice House | Smoke House | Fence Post |
| Small Bridges | Manure Pit | Hog House | Gate Posts |
| Culvert | Septic Tank | Poultry House | Walls, Sills and Lintels |
| Foundation | Oil Storage Tank | Dipping Vat | Garages |
| Gutter and Curb | Tennis Court | Tanks | Overcoating of Old Dwellings |
| Storage Cellar | Concrete Roof | Piers for Small Boats | Porch, Cellar and Stable Floors |

If you live East of the Mississippi ask for any one of these that interest you; ask also for a copy of ALPHA CEMENT—HOW TO USE IT—96 pages illustrated—showing how to build scores of concrete improvements, how to make forms, how to make concrete waterproof, how to insure fireproofness, etc. Mention American Builder

ALPHA PORTLAND CEMENT COMPANY

General Offices: EASTON, PA.

Branch Offices: New York Boston Philadelphia Pittsburgh Baltimore Savannah

"Own Your Home" Campaign Plans Announced by U. S. Department of Labor

COMplete plans, adaptable to any city in the United States, for an effective "Own Your Own Home" campaign have been formulated by the U. S. Department of Labor and the literature is now ready for distribution thru the Division of Public Works and Construction Development of the Department. Twenty cities already are getting under way with their drives for home building and home owning.

To supervise the formulation of these plans Paul C. Murphy, of Portland, Ore., for two years working on "Own Your Own Home" work, was brought to Washington. In consultation with Department of Labor officials and several of the leading authorities on building in the United States, Mr. Murphy has drafted the campaign manual, now available for such cities and individuals as are interested in promoting home owning.

The "Own Your Own Home" Bureau in the Division of Public Works and Construction Development will serve as an advisory board to the managements of these local campaigns, where requested, and will extend the fullest co-operation to every city in the country which undertakes a campaign.

Briefly, the campaign plan contemplates a General Committee made up of civic and industrial leaders, with someone whose standing in the community justifies his selection, as the chief executive official.

Under this general committee are such subcommittees as have been found essential. The manual suggests the pro-

dence of having vigorous committees on Finance, Publicity and Campaign Methods, Mercantile Institutions, Public Service Corporations, Education, Religious Activities, Industrial Workers and Labor Unions, Hotels and Restaurants, Exhibits and Management of Headquarters, Women's Clubs, Speakers and Meetings, Poster Contests, Civic Bodies, Theaters and Amusements, Transportation and Automobiles, Industrial Plants, Music, Printing and Supplies and Donations.

The function of each committee is explained in detail in the Department's manual together with suggestions on handling specific problems which invariably develop in the "Own Your Own Home" campaign.

In the Department of Labor's plan of campaign the women, churches and labor organizations play an important part. The entire campaign is pitched on a civic betterment plane rather than on a purely commercial basis and the appeal is more on the line of what each business group can put "in," rather than what it can get "out" of the movement. It is a one hundred per cent Greater City movement, having in mind only the incalculable permanent benefits to the community and the immediate helpfulness to the nation during the transition from war mobilization to peace production. The Department of Labor emphasizes these benefits which may be expected from the "Own Your Own Home" movement:

1. It will provide better living conditions, increase efficiency, encourage thrift, give greater comfort and happiness

(Continued to page 108.)



When You Speak of Modern Buildings You Naturally Think of Western Face Brick and Western Hollow Tile

THE beautiful residence pictured above is constructed of Western "Gothic" face brick. It is an economical modern home in every respect and when the frame buildings in this neighborhood are old and run down, this little residence will stand (good as new) a monument to a building material that is faultless and the wisdom of the man who built for permanence.

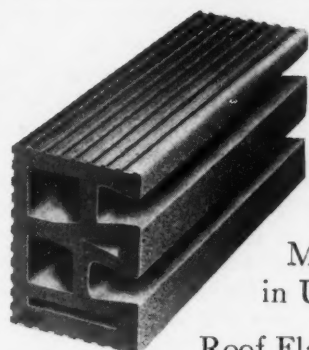
Our line covers every building need—brick of all kinds—and Hollow Tile that is taking the place of wood so rapidly for farm building construction.

Tell your dealer to write for samples and prices if he does not already carry the "Western Line."

WESTERN BRICK COMPANY
DANVILLE, ILLINOIS

Dickey Raggle and Flashing Block

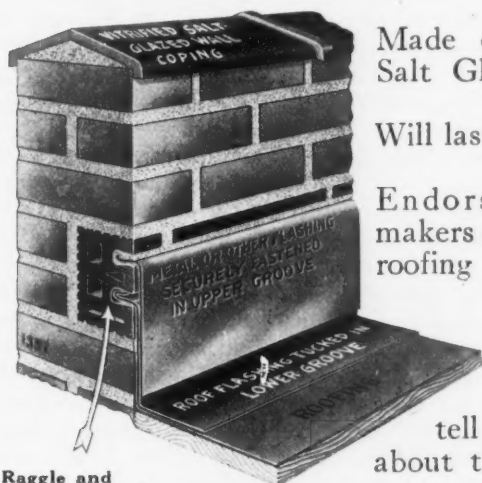
The ideal fastening for prepared roofing. Allows roofing material to expand and contract without cracking or breaking.



Size 4" x 5 1/2" x 12"

Metal Flashing Anchored in Upper Groove.

Roof Flashing tucked in, but not fastened in Lower Groove.



Raggle and Flashing Block

Made of Vitrified Salt Glazed Clay.

Will last forever.

Endorsed by all makers of prepared roofing who have used them.

Let us tell you more about this block.

Dickey Vitrified Salt Glazed WALL COPING

Keeps the moisture out of the mortar joints at the top of the wall.



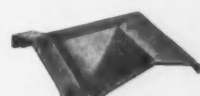
Double Slant Straight Coping



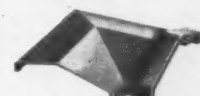
Starter



Closed End



Right Corner



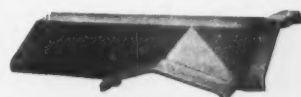
Left Corner

Gives the wall a finished appearance.

Why build an expensive wall and then leave it unprotected.

DICKEY VITRIFIED SALT GLAZED COPING is made in 9", 13" and 18" sizes.

Will not deteriorate like other material.



Tee

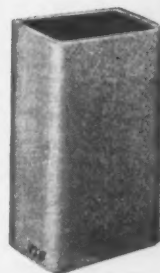
Dickey Fire Clay Flue Lining

No fires from Defective Flues where this lining is used.

Gives the Chimney a smooth interior. Soot will not collect. Makes better drafts.

All of the better building codes include Fire Clay Flue Lining.

Made also with openings for pipes and registers.



Straight Flue Lining



On the left an unlined Chimney with the customary crack. These are the Chimneys which cause fires. On the right a properly built Chimney, protected with Dickey Fire Clay Flue Lining. Note the attractive and finished appearance the Tops give this Chimney.

Dickey Windguard Chimney Tops

(Plain or Fancy)

Made in nine different styles. Helps the Chimney and gives it a finished appearance.

We Have Been Making Clay Products Since 1885. DICKEY VITRIFIED SALT GLAZED CLAY PRODUCTS Will Give You the Maximum Service at the Minimum Cost

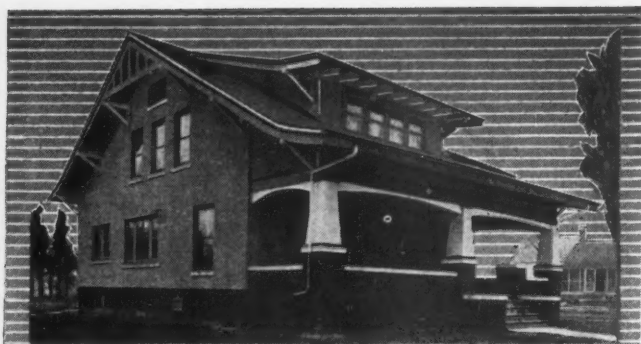
W. S. DICKEY CLAY MFG. CO., Dept. C.

Kansas City, Mo.

Macomb, Ill.

Chattanooga, Tenn.

San Antonio, Texas



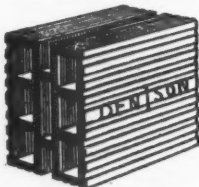
DENISON

FACTS!

Hollow Building Tile is suitable for all buildings and all styles of architecture. Buildings constructed of it are superior in every way, yet cost no more than when built of other substantial materials. If you want the satisfied customers that mean reputation and firmly established future business for you, build with

DENISON Hollow Building Tile

It is the ideal hollow building tile. Affords fire protection, requires no painting and practically no upkeep cost; means greater comfort, winter and summer. Is easily and quickly laid.



Strength—Permanence

Denison Hollow Building Tile is made from the best tile clay deposit in the country, and by the most modern, scientific methods. Buildings constructed of this tile will last from generation to generation,—permanent monuments to the excellence of your present work.

The illustration shown here is the Denison Load Bearing Tile No. 47. Note the non-continuous mortar joints, and vertical alignment of the load bearing webs. Gives strength where strength is needed—no weight where strength is not needed.

Contractors—Builders

Your immediate profit will be equally as great, and your future business and profit will be much greater if you use Denison Hollow Tile for building construction. Write us for prices and full information. Construction details FREE.

Sold by the Best Lumber Dealers Everywhere

Mason City Brick & Tile Co.
900 Eighth Street Mason City, Iowa
Largest Manufacturers of Clay Products
in the World

"Own Your Home"

(Continued from page 106.)

and create individual reserves for misfortune and old age. Every house owner with his family, whether rich, poor, or well-to-do, becomes thereby a better citizen, with increased self-respect, independence and responsibility to the city and nation and is more vitally interested in the welfare and prosperity of both.

2. That during the readjustment period, such a movement hastens the return of normal conditions; results in much needed construction for home and industrial purposes; provides work for returning soldiers and sailors and for labor changing from war to peace industries; stimulates all lines of business in each community, creates general prosperity.

The fact that all these are patriotic in purpose does not eliminate the certainty of their being materially profitable to the local communities and, in the long run, the community which makes it easiest to build and cheapest to build, will reap the greatest material benefits.

Not only has the Department of Labor set out in detail the plan for a successful "Own Your Own Home" campaign. It is preparing publicity matter which is to be placed at the disposal of the local committees and will, where communities can show such action is necessary to the inauguration of the campaign, send an expert to assist in the organizing and getting the movement under way.

The "Own Your Own Home" movement as outlined by the Department of Labor was one of the propositions submitted to the recent conference of Governors and Mayors in Washington, where it met with enthusiastic encouragement and support, many of the Governors and Mayors expressing the determination to return to their districts and interest themselves in getting such campaigns under way.

Among the national organizations which have pledged support and co-operation for the "Own Your Own Home" work are the General Federation of Women's Clubs, thru its president, Mrs. Josiah Evans Cowles of Los Angeles, Cal., the National Association of Real Estate Boards and the National Federation of Construction Industries.

Requests for "Own Your Own Home" campaign literature should be made to the Division of Public Works and Construction Development, U. S. Government of Labor, Washington, D. C.



Wood Preservative

Paint preserves wood, so what is there about so commonplace a subject to discuss?

It would be as comprehensive to say that medicine cures the baby. Any sort of medicine for any kind of disease or complaint? Is that logical?

A paint for every purpose is the slogan of the enterprising manufacturer. Telegraph and telephone poles, fence posts, railroad ties, piles, mine props, farm timbers, structural beams, planks used on piers, bridges, etc., are subjected to hasty decay from the ravages of insects and fungi unless properly protected from such dangers.

It must not be assumed that "any old paint" will answer the purpose, for it requires a paint film combining greatest permanence with maximum penetration, also possessing exceptional antiseptic properties that inhibit the growth of parasitic moulds and micro-organisms.

For the best protection, the material selected should be injected into the wood by the open tank or the still more effective pressure process.

Creosote having a high tar acid content, very penetrative, toxic, non-volatile and permanent is the answer to such problems.

THE HOLLOW BUILDING TILE ASSOCIATION

111 WEST WASHINGTON STREET

1409 CONWAY BUILDING



E. R. STURTEVANT
SECRETARY AND TREASURER

Chicago, Ill., April 1, 1919

To All Readers of the American Builder:-

We are coming to you for the first time as an organized industry, although Hollow Building Tile has been most successfully and widely used for many years in all classes of buildings—from city skyscrapers to farm buildings of every kind in every state in the Union.

Many readers of the American Builder have used Hollow Building Tile in these very buildings and found it more than satisfactory to their customers and themselves, from every standpoint.

It is our earnest hope, if you have never used Hollow Building Tile, that you will ask us to tell you of its many advantages, ease of use and where obtainable in the coupon below.

Our Association, representing 90 per cent of all of the Hollow Building Tile tonnage manufactured in the United States and Canada, is maintained to assist YOU in working out your building problems, to the end that the public may have better buildings at the same cost.

We trust you will accept this invitation to ask us about the use of tile in your daily work. If you have never used it, or feel you have no use for it, that is all the more reason why you should get in touch with us, for Hollow Building Tile is the modern, economical and basic building material of the day.

We shall welcome the return of the coupon below.

THE HOLLOW BUILDING TILE ASSOCIATION

E. R. Sturtevant
Secretary and Treasurer.

THE HOLLOW BUILDING TILE ASSOCIATION
1409 Conway Building, Chicago, Ill.

Gentlemen: I would like to know how I can profitably build the following buildings of Hollow Tile:

(Your Name)

(Your Town and State)

Some Peculiarities and Uses of Glue in Carpentry

By R. Newbecker

AS the better grades of lumber used in building construction are continually getting scarcer, and as the use of veneered products of building material is becoming more popular, such as veneered doors, veneered interior hardwood trim and built-in furniture, the carpenter or builder operating his own woodworking equipment finds from time to time the necessity of doing some of the odd jobs of gluing or veneering of more or less an important nature, which thru unforeseen occurrences prevented him from having the work done in a shop making a specialty of this line of work. And it is with this thought in mind that the writer will dwell on this class of work, in regards to proper glue use and turning out good veneer work.

In order to do a good job of gluing it is essential that the carpenter first understand some of the peculiarities of glue, and in this regard it may not come amiss to state some of the characteristics by which glue is judged. A good indication of the quality of the glue about to be used is the thickness of the flakes of the glue itself, the thinner the flakes and the cakes of glue, the better the grade of the same. A good grade of glue will invariably be found very hard and elastic,

and should be possible to almost wind a flake around the finger before it breaks. A good glue when struck on a hard surface will give a clear, clicking noise, and the break will show a smooth, even break. This will be found especially in glues that are very transparent or very light of color; on the contrary, if the surface of the glue flakes, is full of bubbles or spots, this will indicate an inferior grade of glue, and great caution should be used in its application if it used at all.

Glue that has a foul or ill-smelling odor should not be used under any circumstances, as a glue of good quality always smells pleasantly. A glue that is dull of appearance invariably has been exposed to undue moisture and may have lost some of its good qualities. This is also true if glue is stored in an exceedingly warm place for any length of time, certain chemical changes will occur, which causes it to deteriorate rapidly, and in time becomes useless for application on good work.

In soaking glue none but cold water should be used, which must be absolutely clean. It is also essential that the water used be soft water. Many users of glue make the mistake of using hard water in making

(Continued to page 112.)

**MAKES
OLD
FLOORS
NEW**



FLOORS OF QUALITY

**MAKES
NEW
FLOORS
BETTER**

ASBESTONE floors are fireproof, sanitary, easy to walk on, not noisy, handsome in appearance and moderate in cost.

They add that much desired touch of distinction that can be found in no other type of floor.

Put down with a trowel like spreading plaster over old or new wood or cement floors.

Complete instructions for installing Asbestone Floors accompanies each shipment. We will be glad to quote prices upon request.

ADAPTED FOR USE IN

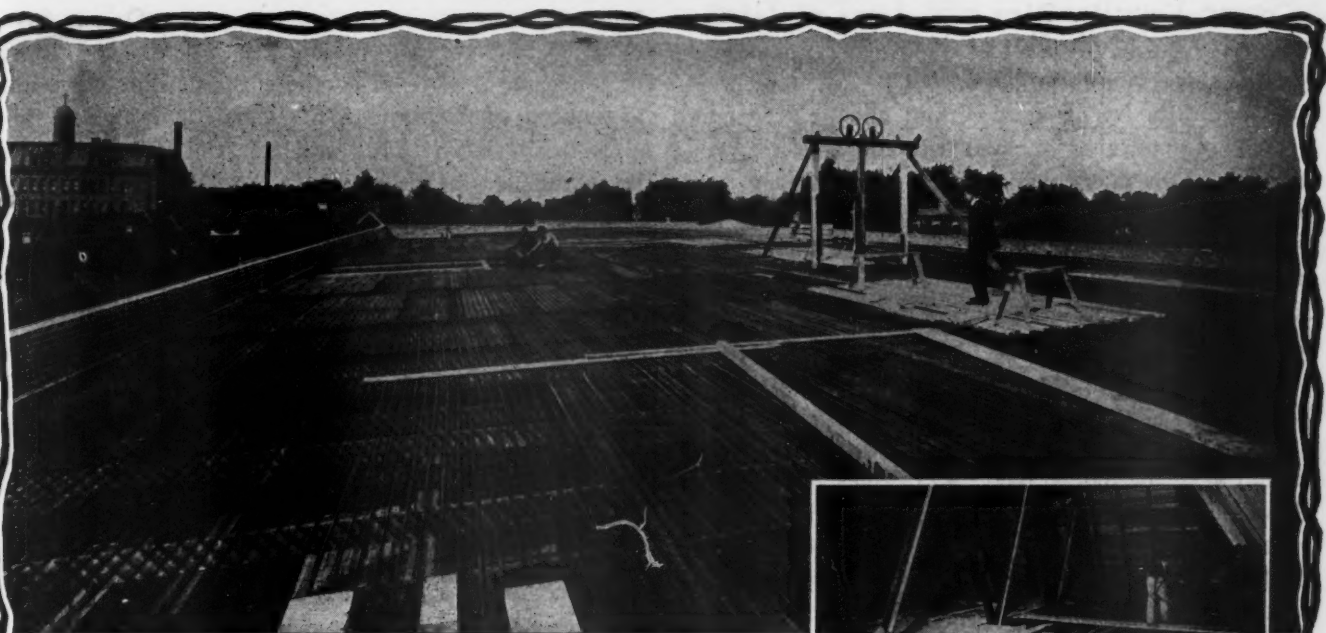
| | | | |
|-----------|----------|-----------|---------------|
| Homes | Churches | Hospitals | Clubs |
| Offices | Stores | Banks | Colleges |
| Factories | Schools | Hotels | Public Bldgs. |

We have some excellent territory still open for reputable Contractors and Building Material Dealers.

Let us send you samples and information.

FRANKLYN R. MULLER & COMPANY
944 Madison Street WAUKEGAN, ILL.





Self-Sentering Roof
Atwood Auto Co., Toledo, Ohio
M. M. Slophjet, Architect
Schmidt, Harwood Co., Contractors

Specify



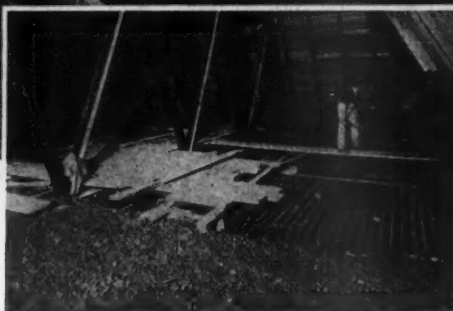
Self-Sentering for All Concrete Work

The illustrations suggest the wonderful rigidity and pliability of Self-Sentering, which makes it particularly suitable for reinforced concrete work of every description.

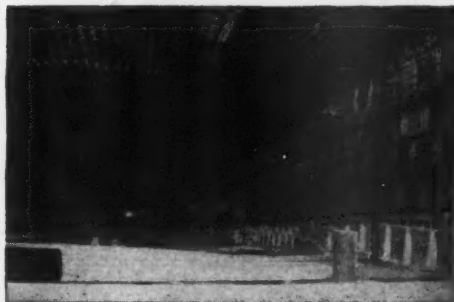
Self-Sentering is a combined reinforcing and centering—a one-piece lath and stud—which eliminates the cost of temporary wooden forms. It is especially adaptable for concrete roofs, floors, sidewalks, ceilings, partitions, columns and beam protection, and bending easily as it does, it is the logical choice for arched floors, roofs, silos, tanks, conduits, culverts, fences and railings.

Self-Sentering is light in weight, yet the construction will be a stubborn resistance against fire, will withstand decay, and moisture and prove space-saving and permanent.

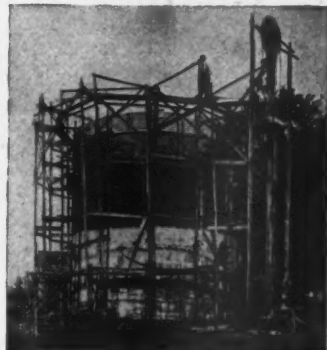
The many uses for Self-Sentering, with details of construction are given in the Fireproofing Handbook. It also contains information about the other GF building products and waterproofings. A copy mailed free.



Self-Sentering Floor
Lowell, Mass. Memorial Building
H. P. Graves, Architect
Matthew Connors, Contractor



Self-Sentering Siding
Lakewood Theatre, Detroit, Mich.
E. H. Rogers, Architect



Self-Sentering Tank
Fayette, Ala.
E. B. Kay, Engineer
W. W. Moore, Contractor



Metal Lath
Because Metal Lasts

The General Fireproofing Co.

YOUNGSTOWN, OHIO

Member of Associated Metal Lath Manufacturers

Branch Offices: New York, Chicago, Philadelphia, Utica, Atlanta, Buffalo, Kansas City, Omaha, Dallas, Minneapolis, San Francisco

Some Peculiarities and Uses of Glue in Carpentry

(Continued from page 110.)

glue, with the result that certain chemical elements present in good glue combine with the lime, magnesia or iron, so prevalent in hard water, that thusly much of the true value of the gripping power of the glue is destroyed. In fact, too much stress cannot be laid upon the use of adequately softened water for dissolving glue. Many a good glue has been condemned because the water employed in soaking it was hard.

The melting of glue is also of most importance in its proper application. Many users of glue are not as careful in this respect as they should be. Glue should never be melted over 145 degrees F.; if heated above this degree it quickly loses its adhesiveness, and consequently it often happens that a twenty-five or thirty cent glue will only give results of a fifteen-cent product. Glue which has acquired a sour smell after being melted should never be used, as decomposition has set in, and if applied to woodwork will in a short time cause the same to pull or fall apart or cause blisters on the veneered surface of the same.

One of the things the builder has to guard against in construction of a building where veneered doors, etc., are used, is moisture. Many a handsome door has been spoiled either by hanging same before moisture of building was removed, or by unduly exposing

same to moisture. A good way to guard against moisture entering doors while the same arrive on the building site is to paint all the edges of the door with a solution of bichromate of potash and expose the edges to daylight. This will have the effect of turning the glue waterproof where the solution is applied and prevent any moisture from entering the door either before being hung or after the same has been placed in building.

Aside from the fact of seeing that good glue only is used on veneer work, the man turning out veneer work must also keep his veneers in proper condition at all times. Good dry veneers are essential to good veneering. If veneer is glued up when the same is not perfectly dry it will shrink after being glued up, causing the grain films to rupture, resulting in numerous fine hairline checks appearing on the face veneers, spoiling the beauty of the veneered product. It must be remembered that veneer is very thin, and any moisture in the same, if veneered in this condition, will cause no end of trouble.

There are many carpenters of the present day who have the firm impression that white glue is better than the natural colored product. In this respect they are, however, in error. The fact is that white glue possesses no more adhesiveness than any other glue.

(Continued to page 114.)



SAULT STE. MARIE HIGH SCHOOL

LIVING—STONE

Contractors do you know what that name means to you! No more trouble, no more worry about joining concrete laid months ago with today's work. The two bond perfectly if you use Living-Stone. Used since 1905. One cent a square foot gives concrete insurance. Write us today for complete information.

THE LIVING-STONE CO.
703 LAW BUILDING, BALTIMORE, MARYLAND

If Every Reader of The American Builder Who Builds of Frame Would Fill in This Coupon

we would know just what information to send you to enable you to build (any kind of a building) of permanent, fire-resistive materials at about the same cost as good frame construction. We believe every reader of the American Builder would prefer to use permanent fire-resistive materials instead of frame, if he knew how to do so profitably at about the same cost. Hundreds of contractors are now doing so. So can you when you know how to use these modern materials as well as you now know how to use the frame. Tell us in the coupon below why you do not use these modern materials. Is it because you do not know how to figure such materials? Because you do not know how to use such materials? Because you do not know where to get such materials? Because you cannot get masons to do the work? Because the public does not want buildings so built? Or because you do not believe in such construction? Whatever your reasons are, please tell us in the coupon below, for we want **you** to help us reduce America's annual FIVE HUNDRED MILLION DOLLAR fire and depreciation loss. We will show you how.

THE PERMANENT BUILDINGS SOCIETY
Chamber of Commerce CHICAGO, ILLINOIS



MAIL IT TODAY, PLEASE

THE PERMANENT BUILDINGS SOCIETY
Chamber of Commerce, Chicago, Ill.

GENTLEMEN: I am building of frame construction for the following reasons:

I am figuring on the following buildings in frame (give size and number of stories) but would like to know how to use permanent fire-resistive materials instead, provided they cost no more.

YOUR NAME

YOUR BUSINESS

YOUR TOWN

YOUR STATE

Some Peculiarities and Uses of Glue in Carpentry

(Continued from page 112.)

White glue is merely the natural glue colored with white vitrol or oxalic acid and oxide of zinc, which is commonly used for this purpose. The reason for coloring glue is that in some trades it is absolutely necessary to use glue of white color. The mixing, however, of any coloring matter has never as yet been found to increase the adhesive quality of the glue.

Ground glue is rather hard to judge by its appearance; nevertheless a very good test of ground glue can quickly be made by taking a handful and closing your hand over it. If it gets sticky within a minute or two, while holding it, it is of an inferior kind, made of bones or other inferior offal of animals. A good hide glue will always retain its brittle nature for quite a while in the hand without getting sticky.

Never purchase glue that has been exposed to moisture nor glue that emits an odor similar to dead animals. Irregular bubbles noted in melting glue, when of large size, prove that the material from which such glue was produced had been in a state of decay. If in cooking glue of this sort emits a noxious stench it is unfit for use. Even when soaking this glue, before melting, the disagreeable odor may be noticed. Further proceedings with glue of that peculiarly

objectionable odor would only prove to be a waste of time and money, because such glue when used for veneering or glue jointing will blister or come loose in a short time after, or joints come apart when such glue begins to decay.

One of the things of most importance to guard against for the builder or carpenter operating his own small shop, in the use of glue, is to avoid the use of stale glue. Where a man is using only a small quantity of glue there is a disposition to keep it standing melted in his glue pot from day to day. He adds a little glue or water from time to time, and never realizes the injury which may be done by the use of stale glue. Of course it takes a little time and often means a little waste of glue if it is cleaned up every night. This, however, is far cheaper than turning out glue work which will invariably turn out bad.



War Medals for Victory Loan Workers

An interesting announcement from Washington, in connection with the coming Victory Liberty Loan campaign, is that the workers in the Victory drive will be awarded medals made from captured German cannon.

An official message to this effect was received from the Treasury Department by Ben F. McCutcheon, Publicity Director of the Liberty Loan Organization, Seventh Federal Reserve District, the text of which follows:

(Continued to page 116.)



STORE FRONTS

that are up-to-date are the retail merchants' best salesmen.

Contractors

there is an ever increasing demand for *Mesker Store Fronts*. Look down the street in your town and you will find perhaps a dozen customers—men who have already considered installing a new front. There is a big profit waiting for you—and we provide everything—free designs, full sized details, structural steel, marble, copper setting, glass and millwork.

Write today for our proposition.

GEO. L. MESKER & COMPANY

Complete Store Fronts
EVANSVILLE, INDIANA

FLOORS

The Wood-Mosaic Kind



For every home—Old or New. Can be installed by your mechanics. Our 5/16" flooring can be laid in old or new houses. We make all kinds and thicknesses; Wood-Carpet, strips Plain and Ornamental Parquetry, Tongue and Groove Flooring.

Send accurate measurements of rooms for sketch with exact estimate of cost of the flooring required. Instructions for laying and finishing accompany all orders shipped.

Send for free catalogue in natural wood colors.

Wood-Mosaic Company
New Albany, Indiana



The Thinking Builder Knows

that the eyes of pedestrians travel no higher than the store fronts. And that no matter how elaborate a building may be above the ground floor, it is money wasted if the store fronts are not equally or more than equally attractive.

For the same reason he knows that an antiquated building may be modernized by simply substituting modern store fronts.

The Honest Builder Knows

that Kawneer Store Fronts are actually superior. Their superiority in beauty—is visible to the eye. Their economy is visible both in the price lists and in their long wear.

Kawneer Fronts are made entirely of metal—copper or bronze. They are furnished complete from sidewalk to I-beam.

The Wise Builder Knows

that for reputation-building, the Kawneer installations are a tremendous aid. A pleased customer—who will advertise the builder by word of mouth—is invariably the result. And the Kawneer-equipped building is a monument to the builder's ability—one that he can point to with pride as "one of his jobs."

We render complete service to builders. Write for New Book of Designs and new Catalog K

Kawneer Mfg. Co. 1226 Front St., Niles, Mich.

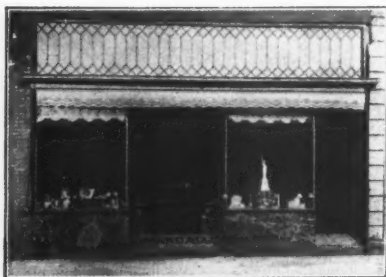


Storefronts of Service and Satisfaction

No resilient and erratic grip on glass to cause breakage. Widest drainage gutter. Greater and more effective ventilation. Easy to install.

More earning power in ratio to cost than any other construction on the market. A system complete in every detail. Correct architectural lines. Simple and thoroughly practical.

Trouble arising in the solution of *Store-front* problems fully overcome, as it is readily adaptable to your individual needs. Quality of workmanship and materials insures *durability*.



Full information without obligation
Use coupon below

Brasco
Manufacturing Company
5027 S. Wabash Ave.
Chicago

Brasco Mfg. Co., Chicago

Please forward Special Store Front Book No. 24, and oblige

Name.....

Town.....State.....

Business.....

War Medals for Victory Loan Workers

(Continued from page 114.)

"You are at liberty to make full use of the announcement that the Treasury Department will award medals made from captured German cannon to all workers during the Victory Liberty Loan campaign. The medal is the size of a half dollar and contains on one side a reproduction of the Treasury building and on the transverse side a certification of Loan participation. Space is left for engraving the name of the recipient."

"I heartily approve of this action of the Government in casting up honor medals made from German cannon to award to Victory Liberty Loan workers," said Charles H. Schweppe, Director of Campaign for the Seventh Federal Reserve District. "It supplies an added incentive to supreme endeavor and surely will have a good effect that will be shown in increased sales. The awarding of these medals made from cannon captured from the foe should result in bringing us a full complement of workers."



U. S. Bank to Aid Home Builder

THE problem of financing the thousands of building projects contemplated in this country is engaging the attention of the U. S. Department of Labor, the building and loan associations and the banking interests. The solution now appears to be in a plan to establish a home loan banking system, which will follow the lines of the Federal Reserve Banks, whose mission is to aid the commercial interests of the country.

The proposed home loan banks would be government institutions, which would take off the hands of the local banks first real estate mortgages, just as the Federal Reserve Banks rediscount commercial paper given the local banks as security for loans. This plan would release, it is estimated, more than a billion dollars now tied up in real estate mortgages and make this money available for new building projects.

Large mortgage lenders are scarce, a survey of the country has shown, and it is on the small investor that the country will have to depend to finance much of the building in the immediate future. For this reason, local syndicates are being formed to consolidate the small amounts and make them available for the larger building projects.

The builder who builds for his immediate use rather than for rental purposes appears to be getting under way with his building plans, the Division of Public Works and Construction Development of the U. S. Department of Labor reports. This especially is noticed in the Central West. This home-building program will be facilitated, the department holds, if small investment money is put into building loans. The building and loan interest already have formulated a plan under which a system of federal home loan banks would enable them to turn their first mortgages into cash for further building.

(Continued to page 120.)



Contractors Are Successful Store Front Salesmen

And by buying "Desco" construction direct from the factory they are making big profits. Read how you, too, can make money by this plan.

Buy at a Discount

We sell direct to you. We have no branch offices, no road salesmen. This advertisement is our salesman. Instead of talking to one contractor this advertisement is telling our story to 36,000 contractors.

This plan is the result of dealing with contractors for 29 years. It is preferred because of the direct service and the cut in cost.

Desco
METAL
STORE FRONTS

A COMBINATION OF
STRENGTH AND SIMPLICITY.
SOLD AT A MODERATE PRICE.

Highest Quality Maintained

Just because "Desco" sells for less does not mean that the quality has suffered. On the contrary, "Desco" is even better than ever before. The best of materials are used, and perfections of design make it stronger as well as easier to install. The copper is heavy gauge, making a construction of great beauty and permanency. The corner bar, for example, is given extra strength by the reinforcement of a steel channel, which is made rust proof by the well-known Parker Rust Proof Process. In the sash the glass rests against creosote-dipped cypress blocks—a cushion which helps to absorb the contraction, expansion and vibration of the glass. All "Desco" mouldings are of heavy copper, perfectly formed. Contractors who have used "Desco" say it is easiest to install.

Big Demand

In every city and town retailers are awake to the necessity of modern store fronts. And you are the logical man to sell them. You know them personally, you know what kind of fronts they need and by being on the ground you can install their fronts

without delay and at less expense. Let us help you close some contracts. Fill in this coupon and get this valuable information. With it you can make suggestions of store front styles and with the price list (and your special discount) you can quote your prices right on the job and not be delayed by writing to the factory for prices on each job. This is a practical plan and we know you will like it.

Backed by a Reputation

The Detroit Show Case Co. is known from coast to coast by the high quality of their "Silent Salesman" show cases and "Desco" store front construction. Our immense business has resulted directly from maintaining that high standard. Our plan of selling store front construction is heartily endorsed and is making money for many contractors and saving money for building owners. Before you turn this page fill in and mail this coupon. There's no obligation, you don't order anything until you need it—it will bring you valuable sales helps and open the way to a bigger bank account.

DETROIT SHOW CASE CO.,
491 Fort Street W.
DETROIT, MICHIGAN

Gentlemen:

Without obligation please send me copy of "Book of Store Front Suggestions," full size details of "Desco" construction with list prices and special discount.

Name _____

Street Address _____

City _____

State _____

**This is Your
OPPORTUNITY COUPON**

Save \$1026



—Make That Same Saving on Every Six Jobs. What Would it Mean in a Season? In Ten Years?


These are not *paper* figures, but actual figures—these six jobs were actually built in Millwaukee and costs of concrete work was carefully checked up.

The actual cost of the concrete work with Reichert Metal Molds showed a saving of \$1026.72 over the estimated cost of wood forms. The saving *paid for the forms*—and the forms will be good year after year. At that carpenter labor was figured at only 70c per hour.

Make your own estimate of how much it would cost you to build the wood forms for these same six jobs—prove this big money-saving yourself.

Send us your name and address and we will send you plans showing these jobs—no simple concrete work about them. We send you actual figures of the cost with Reichert Metal Molds, and our figures on what the wood forms would cost. You can check up this big money-saving to your own satisfaction—to your own big profit. Just write your name and address right in the margin of this page and send it on—we will know what you mean.

A saving of over a thousand dollars on every six jobs is too big not to investigate.

See next page 

on the Concrete Form Work of these Six Jobs



—They Do Everything That Wood Forms Can Do—Do It Better and Faster.

Builds a two-inch or a ten-foot wall. Builds any angle. Builds silos. Speed? Listen to this: A 28'0" x 50'0" laid Monday afternoon. Tuesday eight men started a foundation and by quitting time entire foundation was raised eight feet, with windows in place. Next morning the molds were released for another job.

Sixteen men could not have had the forms built in the same time! Time saved—money saved—profits kept!

Reichert Metal Forms are simplicity itself—no complications—suitable for small jobs as for big construction.

The plans, estimates and costs on these six jobs will open your eyes to the money you are losing. Write for them.



REICHERT METAL MOLDS

Reichert Mfg. Co.

1437 Booth St., Milwaukee, Wis.



WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER



Lesson in Plan Reading

FREE!

Send now for this FREE lesson which we will send to prove how quickly you can learn Plan Reading by our new, easy method. Not a penny to pay for this lesson. Just ask for it. Without a good knowledge of plans your opportunities are limited. At work you don't get the chance to study blue prints or to have their meaning explained. **We make the chance for you.** We place in your hands plans used on actual construction by contractors in Chicago and other cities, and you get lessons by men in charge of building work who will help you at every step and make you an expert plan reader.

Builders' Course On Easy Payments

Our Builders' Course gets right down to the things you need to know. And you can get it on easy payments. A small first payment when you enroll—then payments monthly—so small you will never feel the cost. At least write and find out what this course really offers and how you can make more money by learning what we will teach you in a short time.

Learn By Mail

Use your spare time at home to learn how to be a better workman, a better foreman or a better contractor. Even after you complete the course you have the privilege of consulting us when you want suggestions. We will always be ready to help you.

Some Things We Teach

Plan Reading Use and meaning of all the lines. Plans and elevations. Reading dimensions. Detail drawings. Laying out work from plans. Practice in reading plans from basement to roof, etc., etc.

Construction Brick work, stone work, carpentry, plans and specifications. Every detail explained for residences, office buildings, factory buildings, school houses, apartment buildings, bank buildings, etc., etc.

Estimating Figures on every kind of building work fully explained. Labor and material. Problems worked out from plans. Practical builders' methods studied from plans and specifications of actual building of every kind.

Arithmetic A complete course arranged especially for builders and contractors.

Architectural Drafting Also other branches of drafting. Send for special catalog on these courses.

Send the Coupon

Get this information now. Learn how to make more out of your work or out of your business by knowing more about it. All this information is free. Send for Free Lesson and this information—now. Just send request on the coupon below.

-----Chicago Technical College-----

436 Chicago "Tech" Building Chicago, Illinois

Without obligation on my part, send me the Free Lesson in Plan Reading, also information on your Builders' Course in Plan Reading, Estimating, etc.

Name

Street

City State

Present Occupation

U. S. Bank to Aid Home Builder

(Continued from page 116.)

While the Department of Labor is endeavoring to co-operate with state and municipal authorities in getting under way road building and public improvements, it is convinced that home building must be looked to as an important factor in providing better employment for labor during the transition from war to peace production. For this reason the Department of Labor is making a determined drive for a nationwide "Own Your Home" campaign.



Senator Calder, of New York, Tells Why Building is Being Resumed

HON. WILLIAM M. CALDER, United States Senator from New York, speaking before the builders' organization in Baltimore, Md., recently, urged the resumption of building activities thruout the country as the proper way to stimulate business. The New York Senator emphasized the soundness of America and the certain prosperity ahead, submitting there is no good reason why builders should refrain from getting projects under way immediately. On the building and business situation, Senator Calder said:

"The building industry is one of the most important in the nation. It always seemed to me that it was really the most important, for it has to do with the construction of homes in which our people live, the places of business in which men and women are offered an opportunity to earn a livelihood, and then, too, our public buildings, churches, great art galleries and great institutions of learning and places of amusement. It always seemed to me that it was a fundamental business, and the men who were engaged in it came only after those who till the soil and produce the things that keep people alive.

"You are now met with the problem of whether one can afford to build under present prices. My own opinion is that prices will never return to where they were before, and, while there is bound to be a period of reconstruction serious to your trade, the ingenuity of the American builder is such that he can, by substituting materials that will answer the same purpose, obtain a lower price and make up, to a certain extent, the difference in increased costs.

"There is a real demand today for housing all over the country, and if I were to offer advice it would be to urge builders to watch their opportunities and be prepared to take advantage of them when they are presented."



AN ARCHITECT who specializes in designing smaller buildings, such as homes, barns and other farm buildings, says he is snowed under with work. And more than half his orders are for home building plans. More than merely encouraging, isn't it?



There are no knots in
TONCAN METAL

CHEAP, low-grade sheet metal is just like cheap, low-grade lumber—full of knots. Only—you can't see the "knots" in new sheet metal.

Sheet metal "knots" are simply clusters of impurities that soon yield to corrosion, leaving pitted, pinholed, worthless sheet metal and sheet metal products.

Toncan Metal is free from "knots" because the knot materials (impurities) have been reduced to a minimum and the slow, careful methods of manufacture distribute this minimum evenly.

That's why Toncan Metal is unsurpassed in lasting qualities by any sheet metal produced from iron ore.

Your reputation is built upon the materials you recommend and use as well as upon the quality of your work. You are building for the future when you recommend and use Toncan Metal for Roofing, Siding, Conductor Pipe, Eaves Trough, Flashing, and all sheet metal work that is subject to severe corrosive conditions.

You should have our Sheet Metal Handbook—Corrosion—The Cause—The Effect—The Remedy. Shall we send it?

The Stark Rolling Mill Co.
Canton, Ohio

TONCAN
METAL

Resists Corrosion

"Over the Top" with the Nation's Building Campaign

AN APPEAL TO PATRIOTISM WILL HELP THE OWNER DECIDE

By Chesla C. Sherlock

WHEN the problem of financing the war faced the government it naturally turned to the bankers for a remedy to the situation. The bankers were the men in whom was largely centered the wealth of the nation. The bankers must, therefore, in a large measure, absorb the government loans.

Since the bankers stand in the position of middlemen they could not keep the government securities permanently. They must find a way to stimulate the interest of the public in the government loans to the end that the public would readily absorb the paper in the hands of the bankers.

Naturally the bankers turned to publicity and they realized that only thru this medium could the matter be brought quickly to the attention of the whole country. So it came about that the government formed a division of advertising whose duty it was to prepare this matter and present the proposition to the public.

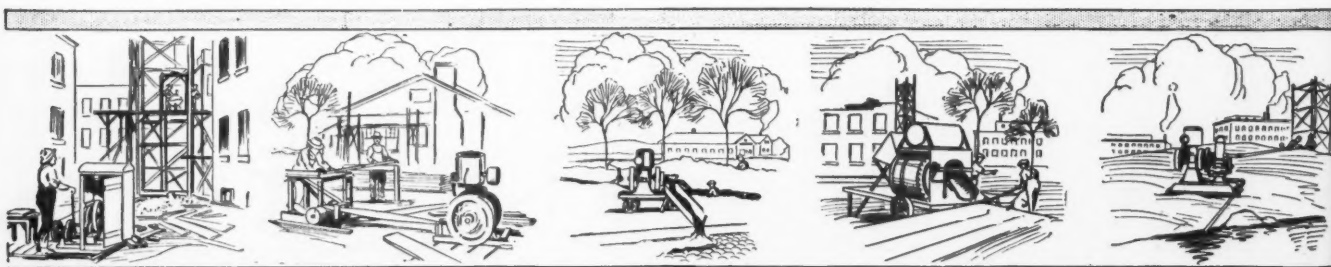
This is all history with which the average person is thoroly familiar, but it will serve to bring out a point which I desire to make concerning the immediate situation facing the country in building work.

The labor situation is, undoubtedly, the greatest problem facing the nation and the manner in which it is worked out will have everything to do with the future of the country.

The problem is as vital to the nation as a whole as was the successful financing of the war, and the government has, in the same measure that it appealed to the bankers, commenced to appeal to those who are most logically in a position to immediately offer a solution, namely, the contractors and builders.

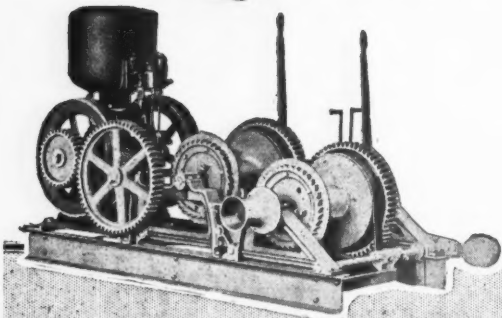
The government, thru the Department of Labor, is asking every contractor and builder who has been holding up work on account of the uncertainties of war time construction, to immediately commence his work in order to absorb as much as possible of the labor surplus existing. The government wants to see building resumed on the scale that it was at the opening of the war and more. It wants to see building that has been postponed commence at once, as such a situation would temporarily, at least, relieve the labor congestion and tend to strengthen the economic condition

(Continued to page 124.)



Force Pumping Outfit, 2½, 4½, 6, 8, 10 H. P. Capacity 800 to 7200 gallons per hour.

Double Drum Hoist for operating drag line, pile drivers, mine work and general hoisting. 8 H. P. and 10 H. P. sizes.



The Operators Choice

When the man on the job—the man who operates and cares for the equipment is consulted his verdict is quite likely to be decidedly in favor of the **Ideal** power and equipment.

His experience and close observation soon teaches him the advantage of using equipment that has the strength and power for all occasions; that is simple in construction, that is rugged and strong and that is designed to make the work convenient and safe for the operator to handle.

In fact, the best salesmen we have for **Ideal** power and equipment are the men who have the experience of operating our machinery on the job.

Our catalog describes in detail the various **Ideal** outfits for hoisting, rumping, excavating, etc. Write for a copy of this catalog and tell us the kind of work you have to do. We will advise the most practical equipment for your particular requirement.

IDEAL ENGINE COMPANY

R. E. OLDS, Chairman

630 E. Kalamazoo Street, Lansing, Michigan

THE HUBBARD-FLOYD CO., INC., DISTRIBUTORS

90 West St., New York City

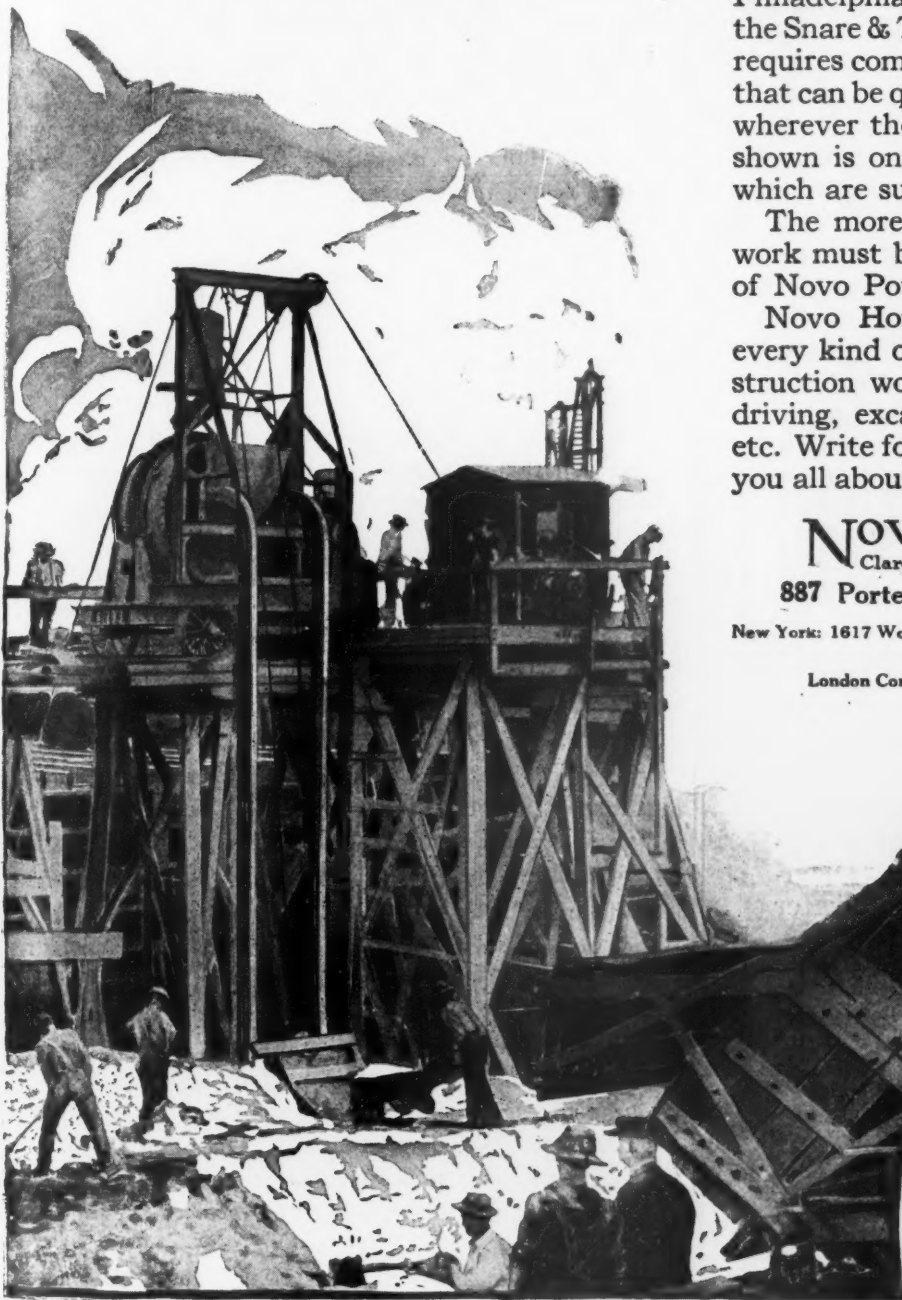
Old South Bldg., Boston, Mass.

IDEAL  **POWER**

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

NOVO

RELIABLE POWER



Novo Engines, 1½ to 15 H.P. Outfits for Hoisting, Pumping, Air Compressing, Sawing. Furnished to operate on gasoline, kerosene, natural or artificial gas. Catalog showing complete line sent on request.

Pack-Mules of Power

A Novo Outfit is a compact, independent, self-contained power plant. Like a burro of the mountain trails, it can go anywhere, and will furnish efficient, Reliable Power where heavier equipment cannot be used.

The photograph shows a Novo D. H. Hoist at work on a concrete dock which the Government is building at the Quartermaster's Terminal, Greenwich Point, Philadelphia. The work undertaken by the Snare & Triest Company, Contractors, requires compact, portable power—outfits that can be quickly set up and put to work, wherever there is work to do. The hoist shown is one of the many Novo Outfits which are successfully meeting this need.

The more inaccessible the spot where work must be done, the greater the need of Novo Power.

Novo Hoisting Outfits are made for every kind of lifting and hauling, in construction work, mining, lumbering, pile-driving, excavating, grading, conveying, etc. Write for Bulletin No. 11—it will tell you all about our complete line of Hoists.

NOVO ENGINE CO.

Clarence E. Bement, Vice-Pres. & Gen. Mgr.

887 Porter Street, Lansing, Michigan

New York: 1617 Woolworth Bldg. Chicago: 800 Old Colony Bldg.

Canadian Distributors

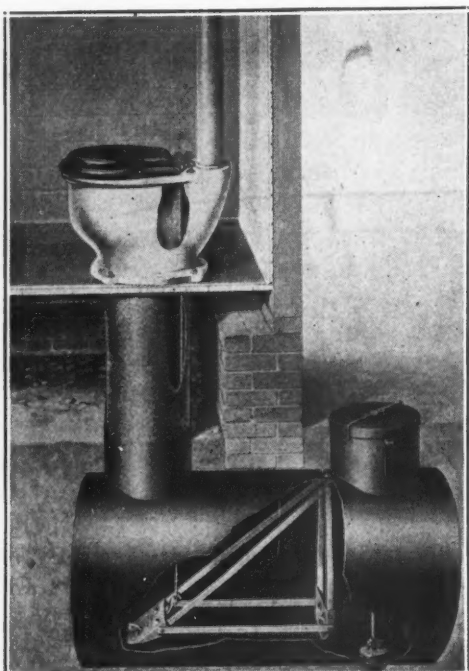
London Concrete Machinery Co., London, Ontario



**Novo Type
D. H.
Hoisting
Outfit**

A City-like Closet for Every Home

You can make a good profit, and at the same time promote the good health and well-being of your community by selling and installing



The WATERBURY SANITARY CLOSET

It closely resembles the modern flush closet and is its equal in convenience and sanitation. Disinfects the waste; requires no water nor sewer.

The Waterbury introduces a high-standard of indoor closet for country and town. Your customers will prefer it to all others for homes, schools, factories, churches, etc.

Supply the Demand

that exists in your community for high-grade, modern, indoor closet convenience. There's good profit in the "Waterbury" and it means delighted customers.

Write now for full information.

The Waterman - Waterbury Company
Minneapolis, Minnesota

"Over the Top" with the Nation's Building Campaign

(Continued from page 122.)

of the country. It would solve many of the problems of reconstruction at one blow.

The builders are in precisely the same position that the bankers were when first appealed to by the government. They naturally have the welfare of the country at heart and wish to do all the construction work possible in order to meet the needs of the times, but there is a limit to what they can, of their own accord do, and that limit is not sufficient to present the necessary solution to the problem.

Again the people of the nation must come to the rescue, not with money or investments necessarily, but come to the rescue by not holding up their contemplated building operations for a season or two merely thru selfish motives.

The same situation exists exactly that existed in the first Liberty Loan. People as a whole were not tempted by three and one-half per cent interest when they were getting four per cent from the savings banks and further enjoyed the privilege of having their money where they could get it quickly in case of need.

But when the proper appeal, namely, an appeal to aid the nation in a great crisis, was made, the public responded and continued to respond so long as the crisis existed.

The building situation is now at the stage of the first Liberty Loan. Many people who have contemplated building "as soon as prices of material settle down," will come out in the open and give their orders at once, if the proper national appeal is made.

The burden of such an appeal, of course, rests primarily with the government, just as it did in the matter of financing the war. The builders stand in the relation of middlemen and they cannot carry the burden unless they are relieved by the public.

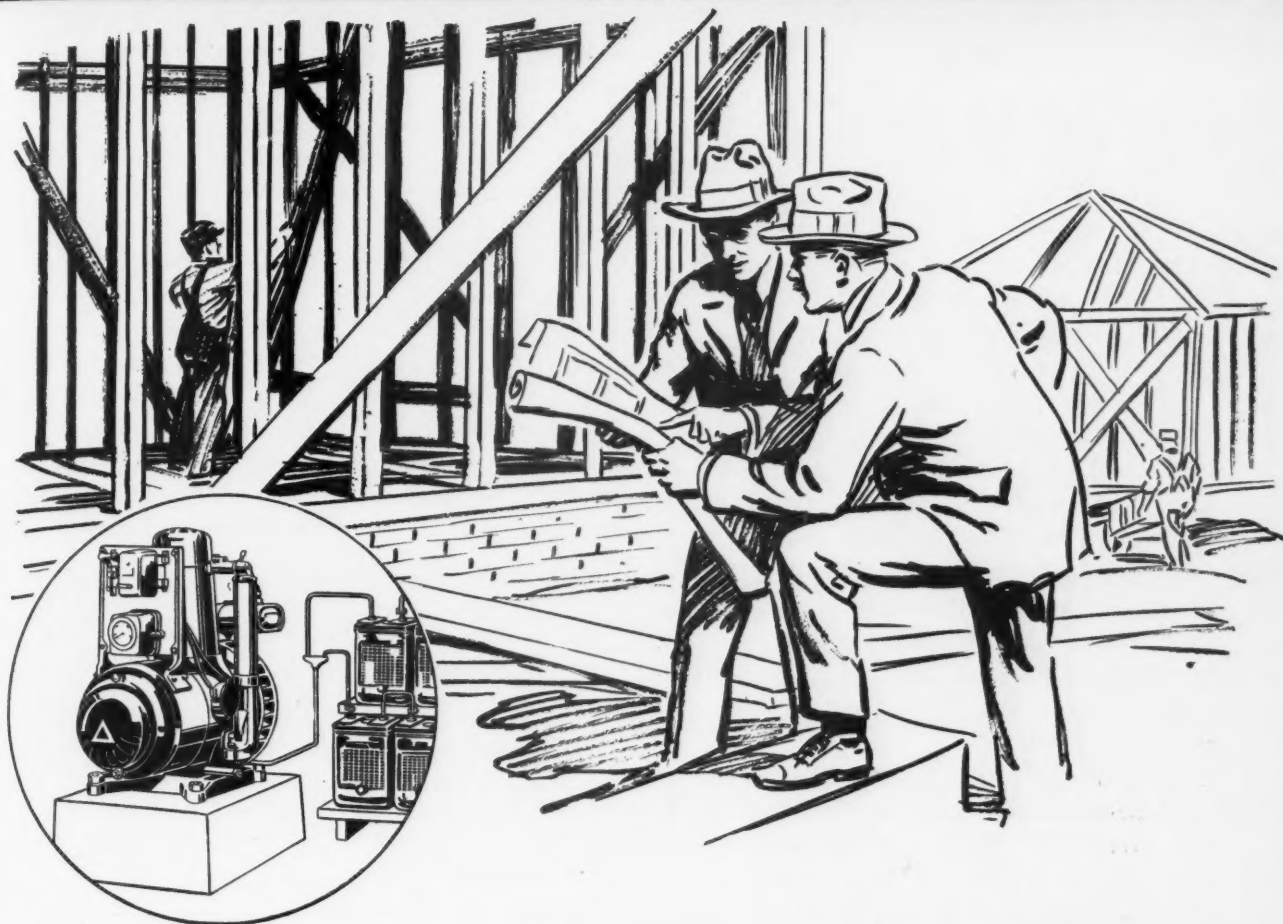
The man who had expected to wait another year and save a hundred or so dollars on his particular building plans, will be as willing to give his order now, as he was to buy bonds at inconvenience or loss to himself, when he understands the situation thoroly.

Indeed the government is responding to the needs of the times by using just the publicity methods that it did in the case of war bonds. The Department of Labor is issuing publicity matter addressed directly to the owner, the county, city and state to "begin that building now."

Reasons for the beginning of a building boom in the country at the present time are as completely set out as reasons for buying bonds were.

But the contractor or the builder must not conclude that the publicity efforts must be concentrated wholly in the government. He has his responsibility in the

(Continued to page 126.)



A complete electric light and power plant for farms and country homes, self-cranking—air-cooled—ball-bearings—no belts—only one place to Oil—Thick plates, Long Lived Battery
RUNS ON KEROSENE

DELCO-LIGHT

The contractor who does most of his building in the rural districts, far from the conveniences of the municipal power station can now specify electric wiring in his plans.

No longer has he to resort to the old methods of lighting the homes and out-buildings of his clients.

DELCO-LIGHT is making it possible to light farm homes, schools, churches, store and public halls with electricity.

It is bringing the city conveniences of electricity into every nook and corner of the country. Our latest catalog is ready—send for your copy and the name of the nearest DELCO-LIGHT distributor.

More than 70,000 Satisfied Owners

THE DOMESTIC ENGINEERING COMPANY, DAYTON, OHIO
"Makers of DELCO-LIGHT Products"

"Over the Top" With the Nation's Building Campaign

(Continued from page 124.)

crisis and in the measure that he meets the responsibility will the success of the project be assured.

The builder is in the local field; he is in touch with conditions and he knows the general situation as concerns his locality better than does the government. It is up to him, then, to centralize the appeal upon those persons who are thinking of building, have been thinking of building, or are likely to be in the market for building work.

It is assumed that the contractor or the builder does more or less advertising. Then, let him link up his publicity methods with that of the government in this matter. Let him focalize the government appeal to individuals and there should be no question as to the labor surplus being speedily absorbed.

It is not possible in a discussion of this kind to point out specific ways in which the builder can work out this problem to his own advantage, but it is possible to indicate a few instances of general application that might be followed.

In the first place, let the builder adopt a slogan which expresses the situation in a nutshell and let him use that in every single piece of publicity matter that he uses.

The banks used the slogan "Buy Now" with telling effect. The builder can use the slogan "Build Now" with just as strong effect, if he cares to take up the matter at all.

And put this slogan wherever people are apt to see it. Give it to them on billboards, in the newspapers, in the movie ads, in the circulars and in the direct sales letters. Make it assume important proportions by the importance which you give it and it will surely bring results.

The effectiveness of the campaign can be strengthened a hundred fold if the builders and contractors in any one locality organize on the move and push it for all it is worth. Let the public understand that the government is behind the contractors in urging prompt building, as it was behind the banks in urging prompt buying of bonds and half of the problem will be solved then.

The details of each locality must, of course, be worked out by those serving that locality, as was necessary in the sale of the bonds.



Breweries Change to Milk Stations

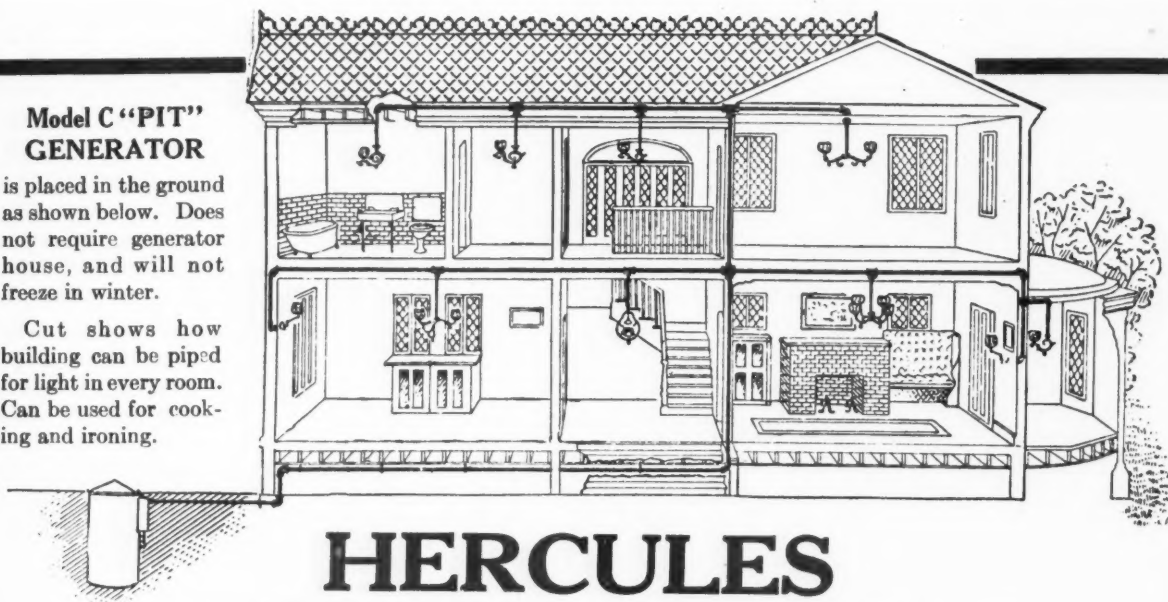
Milk and cream will fill some of the empty vats in breweries of Pennsylvania and other states, according to reports received by the Department of Labor. In place of bottled

(Continued to page 128.)

Model C "PIT" GENERATOR

is placed in the ground as shown below. Does not require generator house, and will not freeze in winter.

Cut shows how building can be piped for light in every room. Can be used for cooking and ironing.



HERCULES ACETYLENE GENERATORS

Provide a perfect light for suburban homes.

The Hercules system is simplicity itself, as may easily be seen by carefully studying the illustration. Acetylene Gas is much more economical than ordinary gas, it is far safer and produces a better light. Is equal to oil at 12½ cents per gallon.

Acetylene Gas is produced by simply placing carbide

in Generator, which automatically drops it in water as the gas is needed.

CONTRACTORS

there is a big profit awaiting the men who install Hercules Lighting Systems in suburban homes.

It is practically a New Field.

Write today for detailed information.

THE HERCULES MFG. CO., CHATTANOOGA, TENN.

Model 1-D Portable Drill



\$45⁰⁰

Complete
with
10-foot
Cord

HANDY—ECONOMICAL—EFFICIENT

Specifications:

Length—10 inches.

Weight—4¾ pounds.

Capacity—Steel, 0 to 1½". Wood and alloys, 0 to 1½".

Motor—Universal, on either direct or alternating current.

Diameter of Motor—3⅝ inches.

Spindle—Offset from center ⅜".

Helical Gears.

Aluminum Handle.

Complete with 10-ft. cord, plug, switch and chuck.

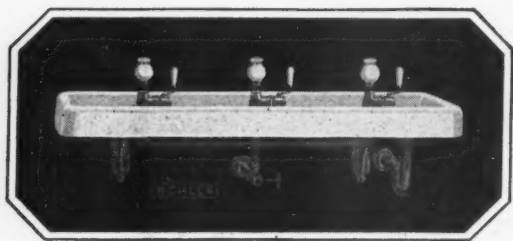
Jacob's Chucks used as a regular equipment.

FOR speed in drilling and counter-sinking small holes, this tool is just what you need. It can be used on any kind of material—steel, iron, brass, aluminum or wood—and gives lasting service.

If your dealer cannot supply you with the Model 1-D, tell us about your requirements.

Wisconsin Electric Company
6710 Sixteenth Street, Racine, Wisconsin, U. S. A.

DUMORE GEARED ELECTRIC DRILLS



"Montello" Drinking Fountain—Plate F-961A

KOHLER

Also MEANS SANITATION

In the school, in the office, in the factory, and in public buildings everywhere, Kohler products have set new standards of sanitation, a fact holding particular significance for the builder to whom unusual quality is highly important.

This *one-piece* "Montello" Drinking Fountain, for instance, exemplifies the unusual quality of all Kohler ware. It is heavily blanketed with the famous enamel that graces all Kohler products. Complete with china bubblers and handles and nickel-plated brass self-closing valves with flow regulators adjustable for a continuous flow of water.

Let us send you, with our compliments, an interesting book which pictures and describes the complete Kohler line of enameled plumbing ware, a book of value to every representative member of the building profession.

KOHLER OF KOHLER

Kohler Co., Kohler, Wis.

Shipping Point, Sheboygan, Wis.

AND TWELVE AMERICAN BRANCHES



MANUFACTURERS OF ENAMELED PLUMBING WARE

Breweries Change to Milk Stations

(Continued from page 126.)

beer, bottled milk will be sent out and ice cream will be produced instead of foaming ale.

In the course of the nation-wide survey now being made by the department, thru the division of public works and construction development of its Information and Education Service, interesting facts have been brought out concerning alterations contemplated for brewery plants whose regular occupation has been legislated out of existence. These plants as a usual thing are well equipped and centrally located. They represent a large investment in building and machinery and in the readjustments following the war they can be easily utilized for peace-time industries.

In Pennsylvania, where remodeling plans appear to have begun without delay, a brewery will soon manufacture wholesale quantities of ice cream. In recent years the demand for what used to be more or less of a luxury has become so general that it may now be classed among the staple foods, and the adaptation of a brewery to the process of freezing cream is believed to offer an opportunity for profit.

One of the large brewing plants in eastern Pennsylvania is being turned into a milk-products factory, for which its arrangement is said to be well adapted. Repairs have been planned for other large structures, in some of which even the machinery can be used to a certain extent. As a natural result of the cutting off of alcoholic drinks, mineral waters will be more in demand, and the bottling works in one plant have been turned over to the owners of the output of a famous spring.

Other uses to which breweries will be converted are: Warehouses, steam laundries, garages, machine shops and beet sugar factories.



Uniform Building Codes

By R. Sr Whiting, Architectural Engineer

AN epidemic of "uniform codes" seems to be breaking out here and there with unusual frequency. The "Government's Standards for War Housing" was worked out by a committee appointed by the Department of Labor in April, 1918, to apply to construction then contemplated under the Labor Department's proposed \$50,000,000 housing appropriation. Just why part of the National Board of Fire Underwriters' code was not used for this purpose, it is hard to understand. These standards applied only to various types of dwellings.

The Building Code recommended by the National Board of Fire Underwriters and published by them in 1915 has become more or less obsolete so that it cannot be recognized as up to date, yet it is the best known and most complete publication of the kind.

The American Institute of Architects for some years has had a Basic Code Committee as one of its standing committees, but so far as it has been possible to ascertain, it has as yet nothing to recommend. It has been suggested that their work be co-ordinated with others and that the Bureau of Standards be responsible for a Basic Code.

At the meeting of the Fire Marshals' Association recently in Chicago, it seems that a committee was ap-

(Continued to page 130.)



LOCKING SOCKETS

For Public and Semi-Public Buildings

WHETHER or not the builder "farms out" the wiring work to an electrical contractor, it pays him in the end to give thought to some of the details of this feature of the structure. Obviously it doesn't pay to spoil a good job by neglecting to consider the owner's convenience as carefully on work sublet as on your own part of the job.

G-E Locking Sockets

Here is a suggestion for a seemingly small detail that will be appreciated by owners of hotels, boarding-houses and public buildings. G-E Locking Sockets prevent lamps from being stolen and also prevent theft of current by the use of flat-irons and the like. In the case of hotels and boarding houses this loss frequently eats up a large portion of the tenants' profits. The General Electric Company's Locking Socket has the exclusive swivel feature which prevents injury to the lamp if an attempt should be made to remove it without the necessary key.

As a rule it doesn't cost any more to use the right device in the right place. G-E Reliable Wiring Devices insure lasting satisfaction.

General Electric
 General Office  **Company** Schenectady, N.Y.

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

Uniform Building Codes

(Continued from page 128.)

pointed to draw up a uniform building code. A meeting of the Building Officials' Assn. was held recently at Pittsburgh, Pa., at which this matter was also discussed.

The National Lumber Manufacturers' Association, also, has prepared a code for small towns and cities which have no building regulations, in the hope that they may become interested in the proper use of lumber in building construction. The association expects to publish this code in a form that may easily adapt itself to the average small city or town now without building code or housing regulations.

As a matter of fact, the Bureau of Standards is the only body now in existence which has the power to dictate a standard code having any authority behind it and without selfish interest.

Most municipal codes are too voluminous and over-technical, and if an institution, such as the Bureau of Standards, or some other body designated by the Federal Government, shall be empowered to arrange a building code containing the minimum requirements for structural safety, fire prevention, sanitation and safety of life, also suggesting economical design and anticipating future growth of municipalities, such a code would be of much value.

There is still the question of the personal rights of different communities in choosing to build by such methods as may suit their own pleasure, which rights seem to have been taken into consideration by the Industrial Commission of Wisconsin in their State Code. This code is perhaps the best of its kind. It is unfortunate that there are few other state codes.

A state code may regulate every detail in the construction field but such codes as have been presented to legislative bodies in the past have not been enacted into law. The Pennsylvania Code, for example; after several years of preparation and at considerable cost, was practically thrown into the waste basket by the law-makers.

There are other states which have now under consideration building codes of some description, but where their regulations extend beyond the field of fire prevention and sanitation, and housing regulations, they will probably meet with the usual opposition and not become operative.

It is unfortunate that so small a proportion of cities of 5,000 population and over, have such a thing as a building ordinance, but only about 20 per cent of these have any building regulations whatsoever.

At this particular time, when every effort is being directed at the building industry to stimulate building,

(Continued to page 132.)

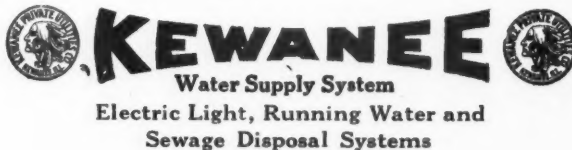


They Rely on You

Your clients rely on your good judgment when they build their homes.

Electric Light and Running Water are indispensable to their comfort. When you supply them with the Kewanee complete, compact plant that provides both with utmost efficiency, you guarantee their lasting satisfaction. Kewanee Systems give year in and year out uninterrupted service. Freedom from repairs and economy of operation result from the fact that each plant is a thorough engineering job—built right in every detail. Years of experience and expert workmanship are back of them. Thousands of enthusiastic users daily prove their reliability and mechanical perfection.

Increase your own business by providing your clients with the comfort and convenience that the name "Kewanee" signifies. Write for cooperation of our drafting and engineering departments and free bulletins on



KEWANEE PRIVATE UTILITIES CO.

(Formerly Kewanee Water Supply Co.)

424 South Franklin Street

KEWANEE, ILLINOIS



At spick and span "Sunnyside" even the registered cattle in the big dairy barn have "individual drinking cups." A Deming Pump with a capacity of 600 gallons per hour takes care of the water supply.

Can You Advise Your Client on the Water System?



There is a Deming System to fit all conditions, from the tiny bungalow to the magnificent country place. This book of water facts will give the contractor all information required to plan the proper system.

Sent free on request together with details of agents' terms.

THE new house is not really a home until it has the convenience and comforts of running water at the turn of a faucet. The building contractor who can recommend the most economical system, explain the simplicity of operation and point out the opportune time for installing it with the plumbing renders his client a worth-while service.

Many a customer omits the improvement merely because misled by visions of expensive installation costs and complicated mechanism.

The contractor takes the order, the plumber installs the systems and both make a neat additional profit, at the same time assuring the home buyer a better, more modern home.

DEMING DISTRIBUTORS

| | | | | | | |
|----------------------|---|---|---|---|---|--------------------------------------|
| Chicago | - | - | - | - | - | Henion & Hubbell |
| Pittsburgh | - | - | - | - | - | Harris Pump and Supply Co. |
| New York | - | - | - | - | - | Ralph B. Carter Co. |
| Philadelphia | - | - | - | - | - | W. F. Dallet & Co. |
| Boston, Mass. | - | - | - | - | - | Chas. J. Jager Co. |
| Richmond | - | - | - | - | - | Sydnor Pump & Well Co. |
| Denver | - | - | - | - | - | Hendrie & Bolthoff Mfg. & Supply Co. |
| Portland | - | - | - | - | - | Crane Co. |
| San Francisco | - | - | - | - | - | Crane Co. |
| Edmonton, Alt., Can. | - | - | - | - | - | Revillon Wholesale, Ltd. |

THE DEMING CO., Salem, Ohio

Deming

HNAD NAD POWER PUMPS FOR ALL USES

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER



Profit-Making Barns For Both Owner and Builder

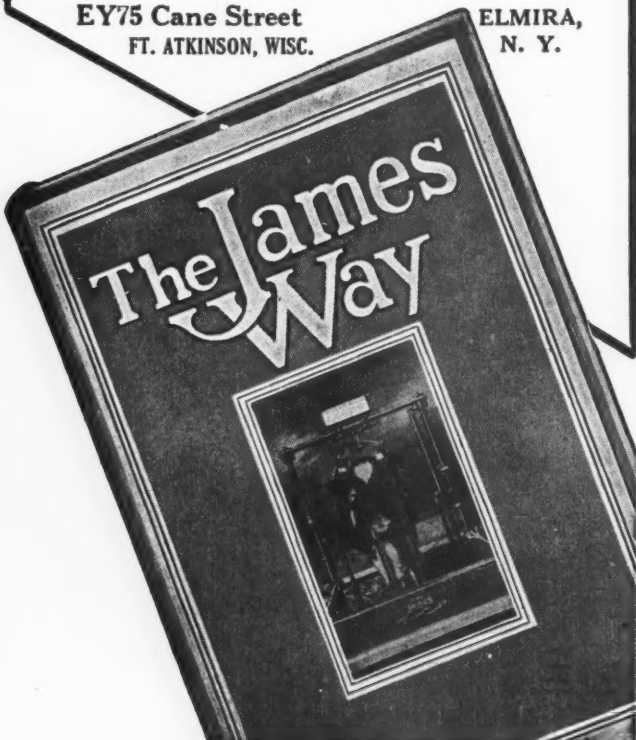
Milk is an "essential" of life. **More** milk is the imperative need and demand. More and better dairy barns are absolutely necessary—for **better dairy barns result in more and better milk.** That's why there should be a great increase in **better** dairy barn building. Why not get your share of the contracts for these barns?

We are in position to help you do this very thing.

Write Us For A Free Copy Of That Famous Book "The Jamesway"

When writing send us the names of farmers who are thinking of building or remodeling barns and give us the size of their herds. We will send advertising literature to those farmers which will bring their building contracts into your hands. Co-operate with us and you will make more money.

JAMES MANUFACTURING CO.,
EY75 Cane Street
FT. ATKINSON, WISC. ELMIRA,
N. Y.



Uniform Building Codes

(Continued from page 130.)

ordinances regulating construction are of vital importance. To eliminate waste by the economic application of both materials and labor thru the agency of proper ordinances should be the immediate aim of every architect, engineer, builder and material manufacturer, as well as every intelligent citizen.



Building Lime Production Small in 1918

For the first time in the history of the lime industry, all but complete reports indicate building lime in 1918 lost first place in amount of sales to chemical lime. While 3,028,000 short tons of lime of all kinds for all purposes were sold in 1918, the building industry consumed only 900,000 tons.

These facts are contained in a survey of the lime industry in 1918, made by the United States Geographical Survey, and reproduced by the Lime Association.

"War restrictions on the building trades greatly reduced the demand for building lime, the production of which in 1918 amounted to one-third of the total lime output," the report says. "Manufacturers of building lime, except those who supplied government contractors, reported decreases in demand ranging from 5 to 90 per cent in 1918, and some plants that supply only building lime were closed thruout the year. A number of government building projects, most of them in the East, had called for or were likely to call for lime during the last two months of the year, but some of these projects may have been abandoned after the armistice was signed on November 11. All restrictions placed by the War Industries Board on the production and transportation of lime were removed on November 12, too late to have an appreciable effect on the recovery of the industry before the end of the year. In view of these conditions it will not be surprising if the revised and itemized figures show that the building lime sold in 1918 has fallen to about 900,000 tons and that building lime has for the first time lost to chemical lime its lead among the lime products.

"The general curtailment of building operations since the spring of 1917, however, implies that greatly increased activity is necessary to restore the country to normal conditions in this respect, and the Federal government already is taking steps to stimulate building. Doubtless many prospective builders are inclined to wait for a decrease in costs, but altho the cost of some necessary commodities and of labor may decrease slightly, the great demand for buildings will probably maintain the prices of building materials in general to a high level."



THE power a man puts into saving measures the power of the man in everything he undertakes."—(Frank A. Vanderlip.) Buy W. S. S.

Scientific Moistair Heating Attracts Orders from House Owners

OBSERVANT builders and contractors know that house owners and builders now give increased attention to the heating system. Modern hygienic teachings have educated people to the vital importance of moist air and correct ventilation in their homes.

Builders who follow this trend of the times will find a receptive interest on the part of owners and builders, an interest that readily can be converted in orders for a scientifically designed and constructed moistair ventilating system.

Round Oak MOISTAIR Heating System



Round Oak PIPELESS FURNACE

The Best Pipeless Heating System
on the Market

FIVE



POINTS

of Round Oak Moistair System Supremacy

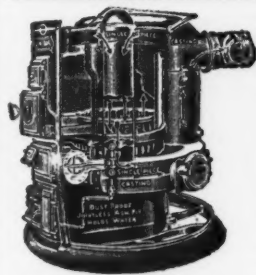
Health—Patented, automatic humidifier, keeps the family more healthy, prevents furniture from drying out.

Comfort — Circulates balmy, warm, moist air, permanently free from dust, gas and smoke.

Economy—Long, indirect fire travel forces most powerful radiation of heat; deeper fire pot, improved efficient hot blast, and oversize combustion chamber combined; guarantee most perfect combustion with maximum heat from minimum fuel.

Convenience — Single regulator conveniently located, controls entire system. Large seamless ash pit fitted with sprinkler, prevents dust. Easy to operate. Burns all fuels.

Durability—All iron is daily tested chemically and physically. The tens of thousands in use, many for more than thirty years, prove conclusively Round Oak Super-Service.



The Heating System That Automatically Humidifies and Ventilates

Heating Problems Solved

The Round Oak Moistair Heating System and the Round Oak Pipeless Furnace will positively solve all owners' and builders' problems in houses where either new or replacement plants are to be installed.

Complete information promptly furnished by the manufacturers; every possible co-operation is extended to both owners and builders.

—Users Say— Unequaled Construction

Round Oak methods have been famous for service for 48 years. Over 75,000 users testify to the quality of Round Oak Moistair Heating System materials and construction.

Once correctly installed this modern and scientific heating system gives more than a generation of uninterrupted satisfactory service.

Both the Round Oak Moistair System and the Round Oak Pipeless Furnace are as "good as new" long after others would have been scrapped.

Detailed Information on Request

House owners or builders who contemplate heating systems for new houses, or those who anticipate replacing unsatisfactory plants with better ones, should write us for complete information. We have prepared instructive illustrated books on both the Moistair System and the Pipeless Furnace which we shall be glad to send on request.

Dealers are urged to write for our "Sales and Profit Plan" and for information concerning exclusive Round Oak representation in their territory. The Round Oak agency may be made the most valuable connection any stove or furnace dealer can possibly acquire. Let us tell you the many profit points in it.

THE BECKWITH COMPANY

"The Round Oak Folks"

ESTABLISHED 1871

234 Front Street, Dowagiac, Michigan

Also manufacturers of the Genuine Round Oak Stoves, Boiler Iron Ranges and Ironbuilt Cast Range.

TEN



POINTS

of Round Oak Pipeless Furnace Supremacy

1. Built absolutely fire-proof.
2. Improved gas and dust-tight bolted construction.
3. Burns all fuels successfully. Economically.
4. Strongest. Lasts the longest. Heavier, too.
5. Humidifies and circulates pure air.
6. Holds the fire 24 hours.
7. Cool basement. Delivers all the heat to the home.
8. Responds more promptly than a stove.
9. Easily operated and quickly installed.
10. Made by "Makers of Good Goods Only."



MOTOR TRUCKS IN THE BUILDING INDUSTRY



Lumber Dealers Big Users of Trucks

TRANSPORTATION OF HEAVY, BULKY LOADS OF BUILDING MATERIAL IS MADE EASIER THRU THE USE OF MOTOR DRIVEN MACHINES

NOWHERE has the motor truck proven more useful than in the lumber industry. From the time the timber is felled in the woods until it is delivered as a finished product, the truck now plays an important part in the transportation of lumber. Some extraordinary performances of the motor truck in hauling logs from the woods to railroads and mills have been recorded, one being that by the use of a trailer a truck has transported 18,000 feet of logs in a single day.

However, it is with the use of motor trucks by the lumber dealers that this article will deal.

The building industry was one of the first to recognize the value of the motor truck as an efficient and economical means of transporting heavy materials. Presumably the reason for this was that the first trucks were of heavy type, three and five-ton machines. These were and are admirably suited for the trans-

portation of the heavy and bulky materials used in building. As trucks were developed, however, and lighter types were made, other uses than hauling heavy loads were found for them. The light trucks supplemented the work of the heavy trucks. Instead of employing a big, heavy machine to get out a small order of lumber, shingles or millwork, a light one was used and did the work more quickly and at a smaller cost.

Then came the trailers, which provide a means of transporting larger and more bulky loads of lumber than the largest of the trucks. The trailer has rounded out the motor truck equipment for the lumber dealers, so that no matter what their hauling needs are, there are machines suited to them.

The value of motor trucks to the lumber industry is so well understood that drawing a comparison between them and horse-drawn wagons may seem a little out of date. Nevertheless, when one views a small jag of lumber, being hauled along by a team, the driver sitting sidewise on the load and almost lulled to sleep by the creaking wagon, and then the speeding motor truck, hauling several times as great a load, he cannot help but realize the value of the latter.

The Pictures Tell the Story

The accompanying illustrations tell the story of how great has become the use of trucks for transporting lumber and the supplies almost every lumber dealer



This "White" Truck Has a Body Especially Designed to Make It Easy to Unload Lumber.

(Continued to page 136.)

What BOSTON thinks of Republic Trucks

Rough cobble stone pavements in many sections of Boston, sternly test the stamina of a motor truck.

Republic Trucks have shown such strikingly dependable performance under these trying conditions that Boston business men have been quick to sense their superiority. In the last year more Republic Trucks have been sold in Boston than any other make. The reason is shown in such testimony as the following:

Blodgett Ordway & Webber, largest wholesale dry goods jobbers in all New England, use four 3½ ton Republics. They say: "Since we installed Republic Trucks, our cost for trucking has been reduced more than half."

Peter Gray & Sons, auto parts manufacturers, say: "We have used our Republic Truck until the heavy floor of the body is worn out from hard usage but the truck has never yet been in a repair shop."

David Shehan, a hauling contractor operating 15 trucks, bought a 3½ ton Republic some time ago. Based on comparative performance he recently purchased two more of the same capacity and now says: "I intend to standardize my entire fleet on Republics of this model."

Lawrence Duck Company say: "Our Republic Trucks have been a profitable investment. When we purchase additional trucks, they will certainly be Republics."

There is no better way to judge a truck than on such facts of actual performance. In Boston, as in other cities where hauling conditions are notably severe, you will find the number of Republic Trucks increasing at a significant rate and users unanimous in their praise of Republic efficiency.

More than 1400 Republic Service Stations back up Republic quality with honest, intelligent service.

REPUBLIC MOTOR TRUCK CO., INC.
Alma, Michigan

The "Yellow Chassis" Trucks—that serve so well

| | |
|--|--------|
| Republic Dispatch, with Express Body and Canopy Top..... | \$1095 |
| Republic Special, with Express or Stake Body..... | 1295 |
| Model 10; 1 Ton, with Express or Stake Body..... | 1535 |
| Model 11; 1½ Ton, Chassis..... | 1885 |
| Model 19; 2-2½ Ton, Chassis..... | 2395 |
| Model 20; 3½ Ton, Chassis..... | 3450 |
| All prices f. o. b. Alma, Michigan | |



SOME BOSTON USERS OF REPUBLIC TRUCKS

Webber & Co.
California Wine Co.
Arax Grocery Co.
S. J. Basker Shoe Co.
Converse Rubber Co.
H. & J. Shoe Co.
Libby Ice Cream Co.
Minute Tapioca Co.
Plant Bros. & Co.
Rueter & Co.
John Donnelly & Sons
Durant Co.
Dorchester Furniture Co.
M. A. Wood Co.
H. Gussman & Co.
International Transfer Co.
Boston & Lawrence Dispatch
Friend Brothers
Whitney Coal & Grain Co.
A. G. Walton Shoe Co.
Peter Gray & Sons, Inc.
W. H. Norris & Son
Blodgett, Ordway & Webber
Torrey, Bright & Capen
Western Electric Co.
N. Y. State Dredging Co.
Dean-Chase Co.
Standard Oil Co.
General Electric Co.
Seamans & Cobb Co.
Columbia Counter Co.
Chelsea Foundry Co.
Chelsea Bag & Burlap Co.
Arthur C. Harvey Co.
Motor Specialties Co.
D. Whiting & Sons
Bond & Bond Box Co.
Wm. M. McDonald Co.
The Bretton Wood Hotel Co.
Lawrence Duck Co.
David Shehan



The Torbensohn Internal Gear Drive, used in all Republic Trucks, delivers 92% of the motor power to the wheels. We know of no other type of drive that delivers as much.

REPUBLIC

Internal Gear Drive

MOTOR TRUCKS

Built by the Largest Manufacturers of Motor Trucks in the World

KISSEL TRUCKS

VETERANS of Transportation

THE first Kissel Truck built eleven years ago is still on the job every day making transportation history in 1919. This facility to stand hard usage during a long period is built into every Kissel Truck from the ground up—from headlights to tail-light—and is the result of eleven years of experience in motor truck designing and construction.

The Kissel-built engine is especially designed for motor truck purposes—with surplus power and strength to meet the rigid tests of unusual haulage and delivery requirements in the building business without engine murmur or chassis protest.

This transportation certainty is the one big reason why you should see your nearest Kissel dealer immediately. Let him prove that in Kissel Trucks your transportation problems have been solved economically, efficiently and permanently.

Send for the latest illustrated Kissel Truck Catalogue—free on request

KISSEL MOTOR CAR CO., Hartford, Wis., U. S. A.



Lumber Dealers Big Users of Trucks

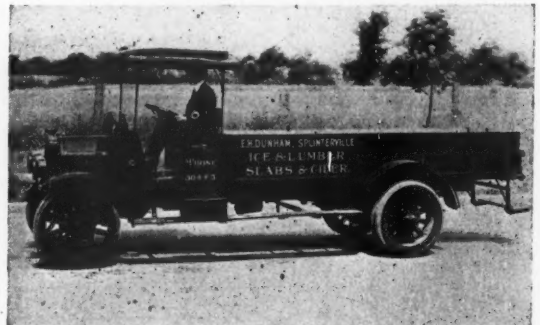
(Continued from page 134.)

sells to the builder. One of the pictures shows a truck especially equipped for the lumber dealer. While its rated capacity is only three tons, an idea of the load it will carry from the yard to the building job is demon-



J. F. Duffy & Co. Finds This "Federal" Special Body Useful for Quick Delivery.

strated. This truck, owned and operated by the Willson Avenue Lumber Company, Cleveland, has a floor especially constructed so as to quickly unload lumber. Rollers, placed in the floor of the truck, make it easy to get the lumber off. The driver, with the handle he is shown operating, merely turns the rollers and the lumber is carried back until it is off center. Then the back

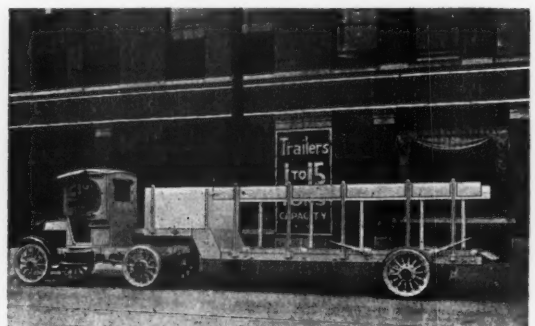


"Federal" Truck with Express Body for Small Lots of Lumber.

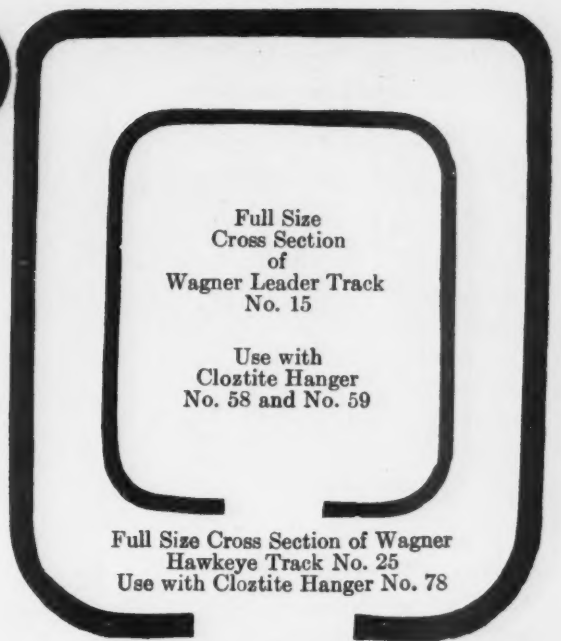
end drops to the ground, the truck is started and the load has been deposited.

More uses of the truck by lumber and builders' supplies dealers are shown in the other illustrations. One shows a truck with a special trailer for lumber hauling.

(Continued to page 138.)



"Federal" Truck and Special Lumber Trailer That Permits Quick Unloading.



WAGNER CLOZITE HANGER

For Folding-Sliding Doors

In Factories, Warehouses, Garages, Stores

The Wagner Clozite Hanger is intended for *sliding-folding* doors and is so designed that the doors will fold back at any angle, requiring little space. Suitable for openings of any width and with any number of doors from two to six. Doors are hinged together and hung to the jamb, being supported at the opposite side by one Clozite Hanger operating in Wagner self-cleaning track.

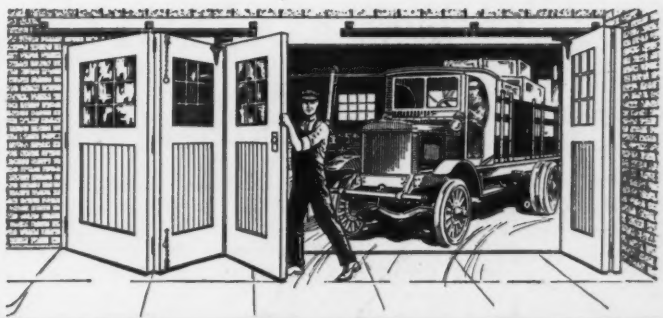
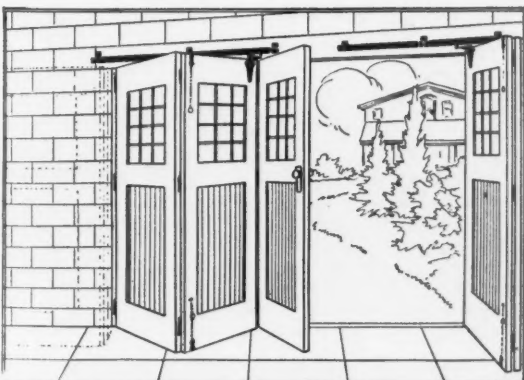
When closed the doors fit into the jamb as snug and tight as one large door. This arrangement does away with the sagging of the doors, which is a big fault of ordinary swing doors. It also permits the use of part or all of the opening as desired. See illustrations below. The same arrangements may be used on the outside of the building so that the doors will open out instead of in.

Illustration below at left shows No. 58 Clozite Hanger on private garage doors opening inward. Center door used as separate entrance. Illustration below at right shows No. 78 Clozite Hanger on big heavy factory door opening outward. Center door used as separate entrance.

Wagner Clozite Hanger is simpler, stronger, easier to attach than any other hanger or device designed for sliding-folding doors. It has a decided advantage over the extended track or adjustable bracket method, as there are no complicated adjustments of brackets used in erecting. There is less strain on the track and brackets, for the track is fastened directly to the wall at all points the same as for ordinary sliding doors.

Write for catalog of Wagner Door Hangers
and Overhead Trolley Carrier Systems

Wagner Mfg. Co. Dept. N, Cedar Falls, Iowa



Lumber Dealers Big Users of Trucks

(Continued from page 136.)

try, because they keep the truck busy," says the owner of this truck.

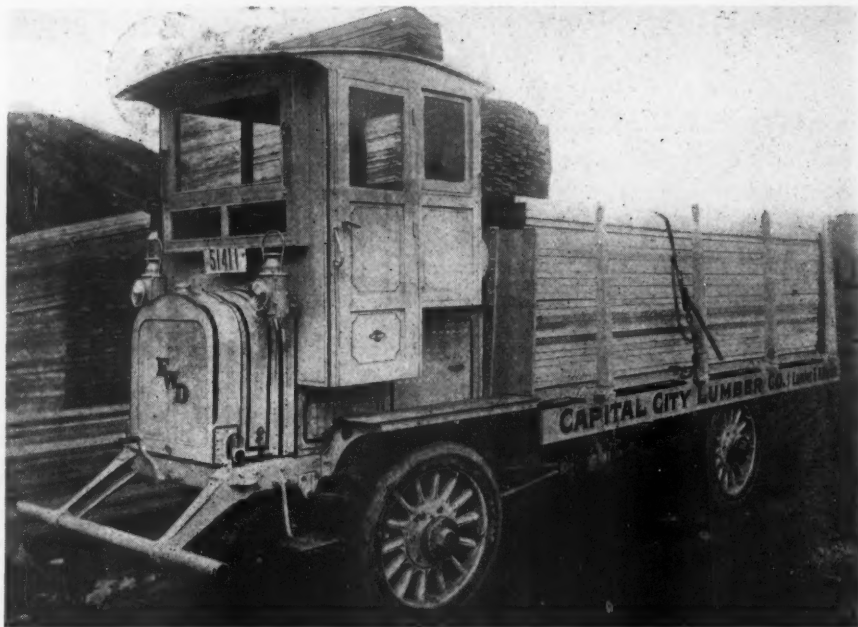
As means of transporting shingles in quantity, the truck also is most efficient, a load of over 100 bundles of shingles being hauled by a Texas lumber dealer. Another picture a truck with a load of building supplies, while still another shows a small truck with a light load of lumber that had to be delivered quickly.

Comparative Costs of Operation

Cost of operation of motor trucks, when compared with horse-drawn wagons, is one of the questions that every lumber dealer will carefully consider when he thinks of supplanting his present equipment with machines.

Such a truck and semi-trailer is operated by the W. A. C. Miller Company, lumber dealers, Detroit, Mich. Mr. Kinney, of the Miller Company, says:

"Practically every other dealer in Detroit is using



"F. W. D." Truck of Capital City Lumber Co. Carries a Good Load of Lumber from the Yards to the Building Job.

this system now, but we were one of the first to try it. We think this is the most efficient device for hauling lumber."

The Miller Company has kept a record of the cost of operating horse-drawn wagons, motor trucks and

(Continued to page 140.)

It is now so easy

for any Carpenter or Farmer to quickly construct a strong and substantial wagon bed or hay rack by using our new

Hay Rack and Wagon Bed Hardware

SEND FOR DETAILS
Today Without Fail

SOLD BY LEADING
DEALERS

ALLITH-PROUTY CO., Danville, Ill., U. S. A.

Chicago New York Boston Philadelphia San Francisco Los Angeles

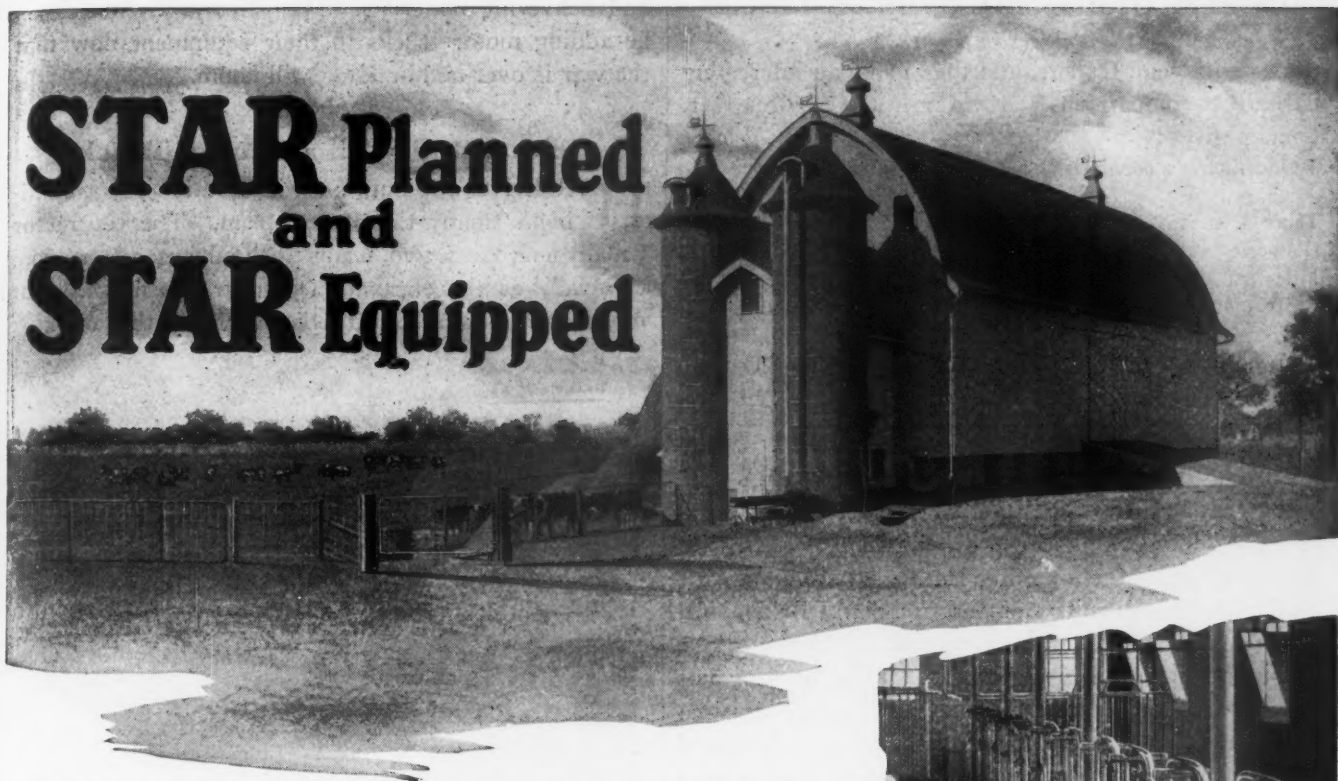
And Representatives in All Principal Foreign Cities

PRODUCTS: Door Hangers and Tracks Rolling Ladders Overhead Carriers Light Hardware
Spring Hinges Fire Door Hardware Garage Door Hardware Hardware Specialties

Catalogs, blue prints and special information promptly furnished

OUR ENGINEERING SERVICE IS AT YOUR DISPOSAL WHENEVER DESIRED

STAR Planned and STAR Equipped



HERE'S a sample of STAR Barn-Plan Service. This barn, on the farm of Mr. Oliver P. Ensley, of Indianapolis, was designed by the STAR Master Barn Designers and is equipped complete with STAR Equipment. It is a specially designed building, not built from ready-made plans, but planned to fit the needs of the owner and to harmonize with the style of architecture of neighboring buildings.

Use STAR Service Land More Barn Jobs

Let us plan your barn buildings for you. The STAR Master Barn Designers have planned hundreds of the finest barns in America. Let us show you some of their work.

Here's barn-building service that's beyond comparison with the ordinary sort. It's different from the usual ready-made barn-plan outfit. STAR Service really begins with the idea for the building. STAR Barns are planned individually to fit the owner's need.

You send in rough sketches or an outline of what is wanted, we do the rest.

And when you get a STAR Barn Plan you get a plan that is based upon the latest type of building construction. Our barn designers know what you have to provide for in putting up the building as well as in giving your customer the best job possible.

Recommend STAR Equipment Save Money In Installing

STAR Equipment is easier to install than any other barn equipment. If you install the equipment, here's something that means saving time and labor, which means money: For example, you don't have to hold up cement work when

installing STAR Equipment. STAR Stalls do not require cement anchors or templates. They are held in position with a patented curb clamp. Simply attach the curb clamp and mount the stall. Entire job takes but a few minutes' time. There are no holes or cut-aways to put in the curb. The stanchions are held at the bottom with double-swing chain attached to the stall posts and not to the curb. STAR Stalls and Stanchions are shipped in complete individual units. You do not have to build the equipment when it arrives. Recommend STAR when you have the job of installing the equipment. You will save money and give your customer a better job.

Do You Want the New STAR Barn Book?

This is a 348-page book on practical barns and how to build and equip them. You will find it a big help in your business. If you will send us the names of a few people in your vicinity who expect to build or remodel their barns this year, we shall be glad to send you a free copy. It shows you a great variety of STAR barn-plan suggestions, complete illustrations and floor plans. Shows how to design a modern barn economically, also how to plan the barn to save time and work in daily chores; how to keep it ventilated; in short, how to make the barn the best possible paying investment. And shows everything needed to equip the barn from floor to roof.



Hunt, Helm, Ferris & Co.
Harvard, Ill. Complete Barn Outfitters Albany, N. Y.

STAR Equipment



The STAR Line
Barn Equipment
Litter Carriers
'Harvester' Hay Tools
Door Hangers
Garage Equipment
Coaster Wagons
Tank Heaters and
Other Farm
Specialties

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

Lumber Dealers Big Users of Trucks

(Continued from page 138.)

trucks with semi-trailers, and they make an interesting basis for comparisons. Here are the figures Mr. Kinney gives:

One month's comparison between horse and truck:

| | Truck | Horse |
|----------------------|-------|-------|
| Trips | 94 | 56 |
| Deliveries | 214 | 93 |
| Miles traveled | 1,502 | 354 |

Six months' comparison of regular truck and tractor:

| | With Stake Body | With Semi- Trailer |
|---------------------------|--------------------|-----------------------|
| Feet delivered | 382,434 | 1,188,264 |
| Total cost | \$1,059.35 | \$2,126.57 |
| Cost per 1,000 feet | 2.77 | 1.79 |

During this time the tractor delivered \$42,811.58 worth of lumber at cost of \$1.00 for every \$20.00 worth of lumber. The use of two semi-trailers with these tractors reduces the idle time to a minimum.

The A. W. Burnitt Lumber Company, Bridgeport, Conn., has devised another method of saving time, labor and money in using trucks. This company has three trucks and keeps them busy all the time by using bodies that are mounted on a one-horse wagon, loaded and then suspended in a loading shed awaiting the next trip of the truck.

Many hundreds of lumber dealers thruout the country who have been using motor trucks for some time now can testify to their merits as a means of hauling

and delivering materials. Many hundreds more will be adding motor trucks to their equipment now that the war is over and building will boom.



Excavating with a Motor Truck

HAULING dirt out of the excavation for a building is many times a problem. The contractor usually employs two teams to haul out one wagon, especially as the excavation is near the finish. But motor trucks have helped wonderfully in this work.

(Continued to page 142.)



Removing the Dirt from a Building Excavation Is Another Use for Motor Trucks in the Building Industry. This 5-Ton "G. M. C." Is Hauling Seven Tons Up a 16 Per Cent Grade.

You Get \$90,000.00 Contract

BIG Business is just ahead. Prepare for it. Be ready to take advantage of opportunities.

Make Your Own Bricks and Blocks

Manufacture pressed concrete blocks and bricks for yourself or for others, both pay

Big Profits

One man in town of 375 earned \$2,430 in 90 days, \$27 a day actual clear cash profit. Another gets \$90,000 contract. Owners of Helm Brick and Block Presses making money everywhere. A small investment starts you making

10,000 Bricks or 1,000 Blocks Daily With This Helm Brick and Block Press

Lack of experience is no handicap. With this Helm brick and block press you make pressed cement bricks and blocks that are perfectly true and uniform, make them in various colors and shades, including granite effect; make them without tamping—no burning—this machine gives 80,000 lbs. pressure; easy work.

We are approaching a big era of prosperity in the building trade.

Manufacturing your own pressed brick and blocks places you in a position to command business.

Helm DRY WALL Building System

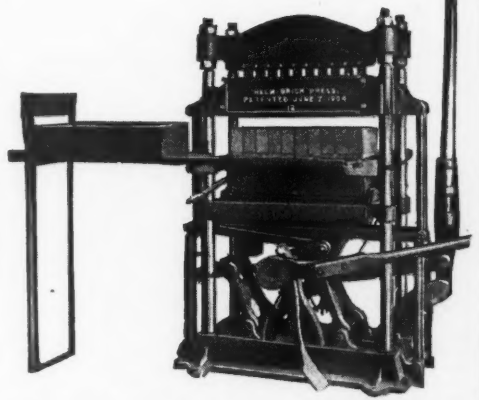
A feature that will influence business your way. Absolutely dry walls. Saves money. No furring or lathing required. Makes fireproof and rigid walls.

You Should Have This Valuable Book

FREE

This valuable book about concrete. Write for it today. Simply fill in coupon here, or address us a letter. This book will start you right, show you the big profits you can make, tell you all the details of operating Helm Press and Dry Wall building system; how each product is made, how it is cured, how it is sold. Write today.

Helm Brick Machine Co., 574 Mitchell St., Cadillac, Mich.



HELM BRICK MACHINE CO.
574 Mitchell St., Cadillac, Mich.

Please send Free the book on concrete and Helm Presses.

Name

Address



THE HESS PIPELESS FURNACE
(We make Pipe Furnaces also)

The HESS Pipeless Furnace

warms your whole house
with one register

No horizontal pipes; no cold air ducts. The heat is distributed thoroughly and evenly; all cold air is drawn off the floors. Moisture (humidity), added to the air, gives your home a healthful, summer atmosphere.

Saves coal—you can burn **anything**; the cheapest soft coal gives results equal to anthracite.

Never leaks, for all the seams are **welded**; no cement required, and never open from expansion or contraction. The inside is smooth; no flues nor smoke passages to clog and prevent radiation.

WE MAKE PIPE FURNACES ALSO—six sizes, for separate pipes and registers.

We Guarantee Our Lowest Prices Now, to Early Buyers

Right now, the dull season, is the best time to buy. Lower prices later on seem improbable, but if we should reduce our rates before October we **guarantee to refund** to all early purchasers, an amount equal to any reduction we may make. Therefore, you are guaranteed the season's lowest prices on your early purchases.

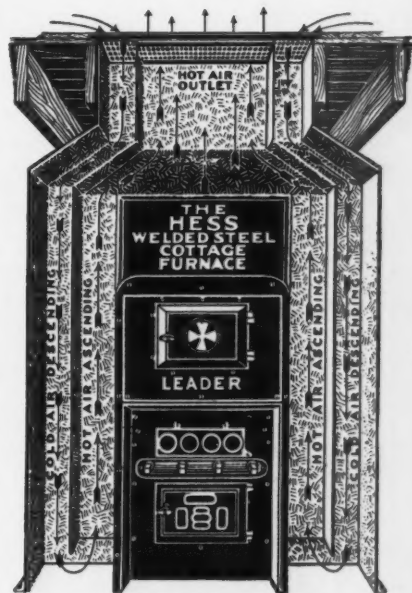
Terms, Cash, Liberty Bonds, or easy monthly payments.

Send us a sketch of your house, for our estimate and our plan, showing the size and location of every detail required.

Our 48-page book on furnace heating is free. Let us send you one and let us tell you, also, **how to burn soft coal** and get **FLAME** and **HEAT** instead of **SMOKE** and **SOOT**.

Special rates to contractors for resale. We sell to very many contractors everywhere, and their repeated orders, year after year, are the best evidence of the success of our heater and our direct-selling policy.

Hess Warming & Ventilating Co.
1220 Tacoma Building CHICAGO



Sectional View Inside
Pipeless Heater

Excavating With a Motor Truck

(Continued from page 140.)

The accompanying illustration shows a five-ton truck with a seven-ton load of dirt making a 16 per cent grade. Altho it has more than a third over its rated capacity aboard, it made the grade easily.

How many teams and men such a truck will replace can readily be figured by contractors who specialize in excavation work and those who handle such jobs in connection with their building contracts. The truck not only takes the load out, but speedily gets to the dump, is emptied and returns for another load.

It is on such jobs as this that the motor truck performs efficient service for the building industry. Their use is steadily growing, and contractors who do not employ them are rapidly learning that they are overlooking a chance to make extra profits.



Truck Handles Heavy Materials Easily

DELIVERING brick, tile, sand, lime, mortar, cement and other building materials from the yard to the building job now is not the difficult operation it was before the heavy duty motor truck came into general use in the building industry. These materials, exceptionally heavy for their bulk, are rapidly and easily transported thru the use of the strong,

sturdy motor truck, such as is shown in the accompanying illustration.

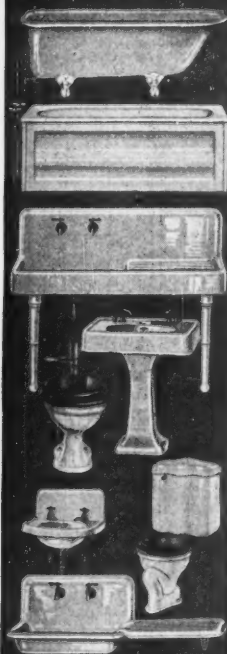
The Toledo Builders' Supply Company, Toledo, Ohio, uses this five-ton truck for delivering the heavy materials it supplies to building jobs in and near Toledo. The body shown is especially designed for the brick and tile, and, it goes without saying, the truck carries a load several times greater than is possible with a team and wagon. The ability of the truck to rapidly get its load, take it to the job, be unloaded

(Continued to page 144.)



The Toledo Builders Supply Co. Uses This 5-Ton "White" Truck to Deliver Brick, Tile, Cement, Mortar and Lime to Its Many Customers in and Near Toledo, Ohio, and Finds It Efficient and Economical.

CONTRACTORS—BUILDERS—CARPENTERS DO YOUR OWN PLUMBING-HEATING



Free Handy Man Book

We will mail you one. Besides being our who'sa'e catalog, this able, instructive Handy Man Book also contains many pages of plans, elevations, diagrams, etc. It gives many suggestions of what fixtures to select and how to install them, etc. Shows how to save unnecessary material, hard labor and time by doing your plumbing and heating this new original

Cut to Fit Method This new way enables any contractor with a few tools to install a complete plumbing, water supply, hot water, air or steam plant at low cost. We furnish a special contractor's and builder's wholesale discount sheet applying to this big book.

Water Supply Systems Our new electric, gasoline or hand operated water supply systems are up to the minute. Write us just what you have in mind. Our Handy Man book describes over 10,000 different plumbing and heating fixtures and supplies, including plumbing outfits, water supply systems, warm air, hot water and steam heating plants and everything else pertaining to plumbing and heating supplies exclusively. Write today and save.

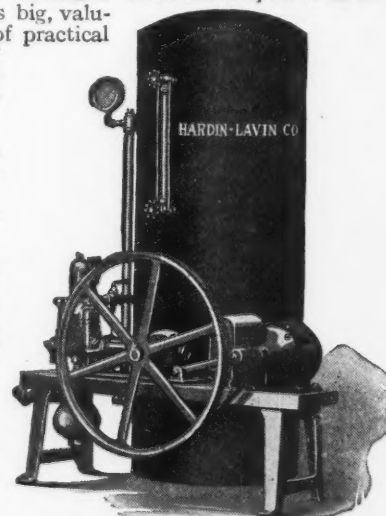
Hardin-Lavin Co.

\$500,000 Plants Behind Our Guarantee

40 Years at

4522-34E Cottage Grove Avenue, Chicago

A copy should be in the hands of every contractor, builder, carpenter and mechanic. Send the coupon to us and big, valuable practical



Hardin-Lavin Water Supply System

HOLLAND FURNACES

**Lead in Sales
in the 135
Cities Where
Now Introduced**



**Lead in Service
for City,
Suburban,
Village and
Farm Homes**

MAKE WARM FRIENDS

A Carpenter and Contractor is a good judge of a furnace. He acquires this because he has learned through observation and experience that if a man is absolutely pleased with his furnace—if his house is warm and comfortable at an economical heating cost—he naturally is better satisfied with everything else that was done in the building or remodeling of his house.

In other words, the Carpenter truly knows the furnace is the "heart of the home." Good furnace advice, therefore, spreads his good reputation.

Furthermore, Carpenters know the heating problem must be met scientifically. A furnace that is simply "guessed" into a house, runs ninety-nine chances out of a hundred against successful service.

Carpenters who have become acquainted with the Holland organization know the care and efficiency of all plans made for the individual conditions of each installation and the high standard maintained through the completion of every detail of the job.

Add to these essentials the advanced principles of its design and the dependability of its construction, together with the Holland Guarantee and the Holland Five-Year Service Bond, positively insuring heating satisfaction to every owner, and you will readily under-

stand why the leading conscientious carpenters and contractors in the six states where Holland Furnaces are now installed unqualifiedly recommend them.

The Holland Furnace Company has never expanded its sales faster than it could follow with efficient service. Branches are now located in 135 cities, each in charge of trained heating efficiency men, and the Holland Furnace leads all others in sales in each and every one of those localities. Holland reputation is not built upon promises; but upon actual service. The first branches established increase sales each year and remain the largest producers of business—built upon proved service.

The Holland burns fuel scientifically. The cone grate breaks up clinkers and compels fuel to roll to the walls of the fire pot. Air is mixed with the gas—the fuel burns from the sides and over the top in the only natural way

to compel 100% of heat radiation. All gases and soot are burned. No internal explosions or "puffing." The Holland is clean, healthy—efficient.

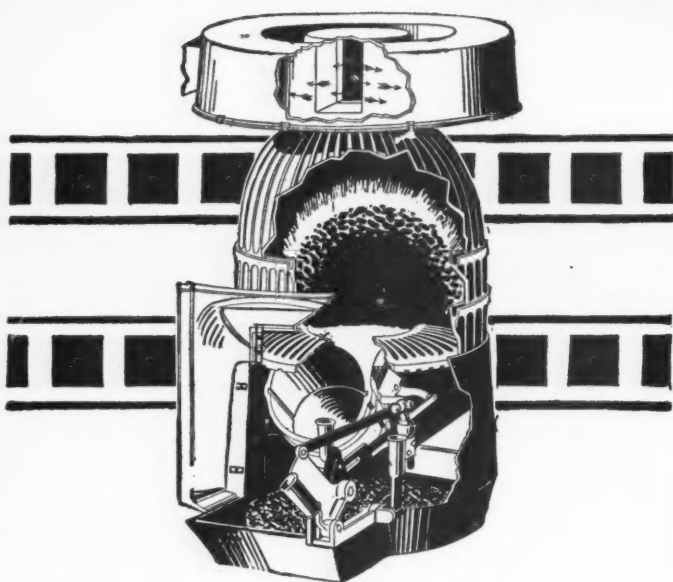
High test cast iron construction, with the fact that all castings are evenly heated, prevents warping or burning out, and have given the Holland a certified reputation as repair-proof. We have hundreds of statements from owners who have burned the Holland seven, eight and ten years without one dollar for repairs. Our statement that the Holland fire pot outlasts any other is based upon and proved beyond challenge by this evidence.

Carpenters' Opportunity

Write for our special proposition to you. We will send along our complete catalog, and will be glad to give you free heating plans and full information. Let us get better acquainted to our mutual advantage. Write us today

HOLLAND FURNACE COMPANY

Holland, Mich. "World's Largest Installers of Furnaces" **Cedar Rapids, Iowa**
TWO FACTORIES



Many Likely Buyers Among Your Clients

They're anxious to cut down the high cost of heating—especially when in doing so they will have more heat and better heat. They don't want to go through another winter of sky-high fuel bills and shivering misery. That's why they're reading with keen interest the fuel-economy message of the Williamson UNDERFEED Furnaces and Boilers in the country's leading national publications. Many of them are already more than half sold on the Williamson UNDERFEED idea. All you have to do is to close the business, with profit to yourself.

WILLIAMSON
UNDERFEED FURNACES & BOILERS
Cut Coal Bills Way Down

We'll help you sell and help you install. You do not "go it alone." Our merchandising specialists will follow up all prospects that you refer to us and help you to land them. That's the kind of co-operation that means quick sales—and sure profits. We will also furnish you without charge electrotypes for newspaper advertisements, picture slides and other selling aids in addition to keeping you supplied with attractive booklets and folders.

Then there is our Engineering Department which will prepare your heating plans and estimates gratis. Send today for further details regarding our co-operation. We will promptly send you practical information on how to make big money selling and installing the Williamson UNDERFEED Furnaces and Boilers. Use attached coupon.

The Williamson Heater Company
73 W. Fifth Street, Cincinnati, Ohio

THE WILLIAMSON HEATER CO.
73 W. Fifth St., Cincinnati, Ohio

Please send me full details regarding your plans to help me sell and install Williamson UNDERFEED Furnaces and Boilers. This request is to involve no obligation on my part.

Name

Address

Business

Truck Handles Heavy Materials Easily

(Continued from page 142.)

and then be ready for a second load makes it an economical and efficient means of transportation. This type of body also is well adapted to handling the other materials the Toledo company supplies.

Motor trucks have been proven to be time, money and labor-savers in hauling building materials. They are speedy in covering the distance between the yard and the building job; they negotiate the bad roads and the ground between the street and the place where the materials are to be delivered when the teams are unable to do so; they save the services of several men who would be required to handle the teams sufficient to a like amount of work, thus saving money.

These savings are more pronounced in the hauling required in country districts, where dealers frequently are called on to deliver materials several miles in the country and builders must transport their men, tools and equipment to a farm building job. This is because the greater the distance of the haul, the greater the economy in the use of trucks. Loading trucks and wagons require about the same amount of time and labor to handle the same quantity of materials. The greatest saving, therefore, aside from the fact that one driver takes the place of five or six, is in covering the distance quickly, thus not tying up the equipment.

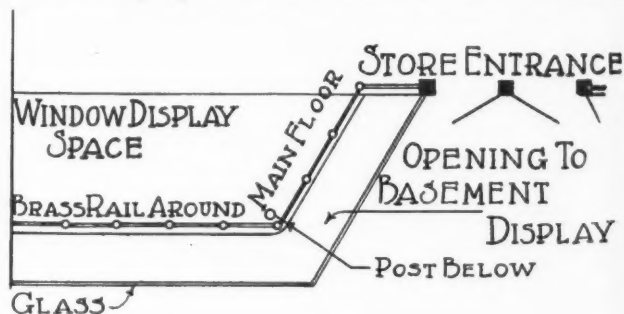


Making the Store Basement Available for Sales and Display

HERE is a successful plan which the builder can suggest to the store owner who wants to get more space for sales and display.

The basement is the answer to many such demands, if only rightly used, in some such way as indicated in the accompanying sketch.

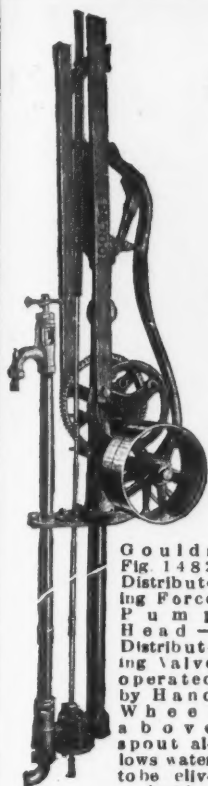
For this purpose the floor of the show window is



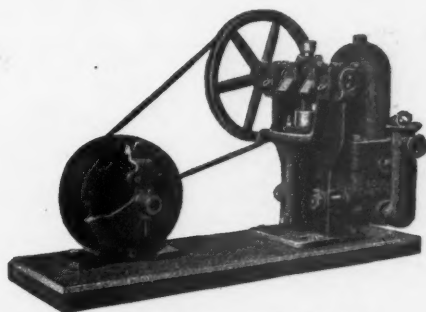
Plan for Store Basement Display.

cut away for a space of two feet or such a matter next to the glass. This serves two purposes, admitting light to the basement, and also giving basement displays a chance to catch the eye of the passerby.

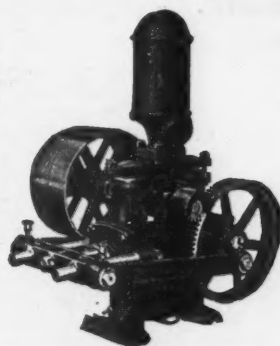
The basement room furnishes an admirable place to display some classes of furniture, household goods or any large articles which do not depend upon close inspection for their attractiveness. E. S. HANSON.



Goulds Fig. 1482 Distributing Force Pump Head — Distributing Valve operated by Hand Wheel above spout allows water to be elevated either at spout or forced underground to desired point. For engine, windmill or hand operation. For filling tanks up to 200 feet above level of water.



One of the Goulds H1-Speed Pumping outfits — A new line containing 13 different outfits for gasoline engine or electric motor drive. For either open or compression tank water systems. Two sizes: 3 and 4 gal. per minute for pressures up to 43 lbs. or elevations up to 100 ft.



Goulds Pyramid Pump Fig. 1531 — For open or compression tank water systems. For direct or belted drive from electric motor or belted drive from gasoline engine. Capacity 6 to 114 gal. per minute against pressures up to 75 lbs. or elevation up to 175 ft.



Goulds Fig. 1680 — Com-bined Deep Well Working Head and Jack. Easy to install. Flange (in center) screws on end of well pipe which fits into recess in base that supports the pipe, allowing top part of pump to be installed with ease. For filling tanks not more than 190 feet above water level. For engine, windmill or hand operation.

Pumps For Water Systems

Engine-driven, electric-motor-driven, hand and windmill operated pumps for both open and compression tank water systems.

Our book, "Pumps for Every Service", shows our complete line. Write for copy today.

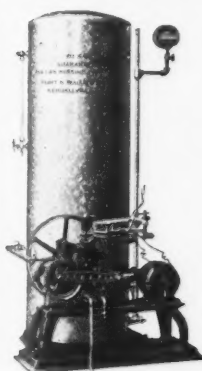
The Goulds Manufacturing Company

Main Office and Works: Seneca Falls, N.Y.

| | | | |
|------------------------|-------------------|---------------------|----------------------|
| New York | Boston | Chicago | Atlanta |
| 16 Murray St. | 55 Pearl St. | 12-14 Clinton St. | 3rd Nat'l Bank Bldg. |
| Pittsburgh | Houston | Philadelphia | |
| 636 H. W. Oliver Bldg. | 1001 Carter Bldg. | 111 No. 3rd. Street | |

Running water—under pressure

THE most essential of all modern conveniences is an adequate supply of running water, under pressure.



Hoosier Systems

are carefully planned to meet the needs of the home in which installed, thus insuring satisfaction.

Made in a variety of styles, for any kind of power, and in many sizes.

Hoosier Pneumatic Tanks, coated inside with Hoosier Anti-Rust Enamel are preferable for a home water supply system, because there

is no danger of water contamination from rust and scale.

If interested—write today for copy of Bulletin E.

HOOSIER
WATER SUPPLY
SYSTEMS

Flint & Walling Mfg. Co.
KENDALLVILLE, INDIANA

Shinn-Flat

PREVENTS LIGHTNING LOSSES



SHINN-FLAT is the one Lightning Rod that is scientifically designed and constructed and guaranteed to prevent Lightning damage. It has 36 per cent more conducting surface than any round rod or cable containing an equal amount of material.

You Can Sell

Shinn-Flat

In Your Community

There is a big opportunity in every community for a contractor or builder to make considerable extra money protecting property already built from the danger of Lightning. This business will fit

in nicely with your building business, and fill in the gap caused by a light building season.

We teach you the business and cover your installations with a cash bond guaranteeing that Lightning will not strike. Write for information.

W. C. SHINN MANUFACTURING CO.
1659 Monadnock Bldg., Chicago, Ill.

Lightning Can't Strike IF Shinn Gets There First

War Develops Hollow Building Tile As a National Necessity

(Continued from page 49.)

but it was not used as extensively by this department as it might have been had there not been such a shortage of funds available for the vast amount of work that had to be undertaken to relieve the congestion in the different manufacturing centers where munitions and war materials were being produced.

This condition imposed on the Housing Corporation by Congress and the delays that occurred at the beginning, also thru tardy action of Congress in passing the needed legislation, made necessary a rather extensive use of frame houses or shacks of the knock-down variety.

Some of these would, of course, have been used in any case, as some of this housing was needed at isolated points in connection with purely temporary plants, which did not warrant a more permanent form of housing.

In all other cases, however, where the housing forms an addition to a city, town, or growing locality,

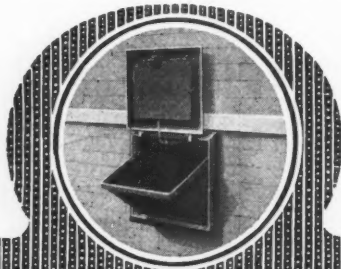


General View of the U. S. Shipping Board Building Project at West Collingswood, N. J.

there is no question but that an even greater quantity of some form of permanent construction would have been used.

The outstanding merits of hollow building tile construction where used would undoubtedly have secured for this material a very large share of such requirements.

When it came to providing dormitories for the government clerks in Washington, hollow building tile was promptly decided on and this project is a marked example of the economy and satisfactory results obtained by its use. (Continued to page 148.)



The Majestic Coal Chute

*One of the Improvements
Every Builder Wants*

WHY? The Majestic prevents damage to the building just where the damage always occurs during coal delivery. It eliminates the unsightly coal window, scarred and nicked, and improves the looks of any foundation.

**DEALERS—CASH in on
The MAJESTIC**

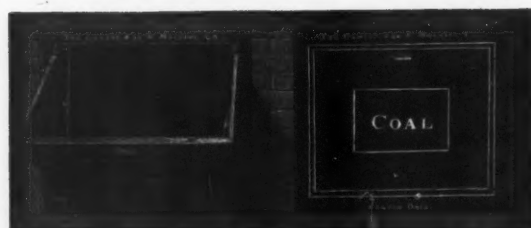
Get the benefit of the new business opportunities created by the 1919 Majestic advertising program. The public will be sold through Literary Digest, House and Garden, House Beautiful, Country Life in America, Keith's Magazine and other national publications.

*Write Today for Catalogue 12G
and Name of Nearest Jobber*

THE MAJESTIC COMPANY

830 Erie Street

Huntington, Indiana



BUILDERS

must remember that CANTON COAL CHUTES and CANTON SIDEWALK DOORS are irreproachable in their appearance, in their construction, and in their superior service.

To specify and install them in your buildings, is to install the best, and, at the same time, realize the greatest profit.

CANTON PRODUCTS

are constructed of steel. They are fire and burglar proof, and add greatly to the appearance and convenience of any building.

Write today for Catalog B-7.

CANTON FOUNDRY & MACHINE CO.
CANTON, OHIO

WANTED

—a few more live dealers in building specialties and supplies to take orders for



TUEC

Stationary and Portable

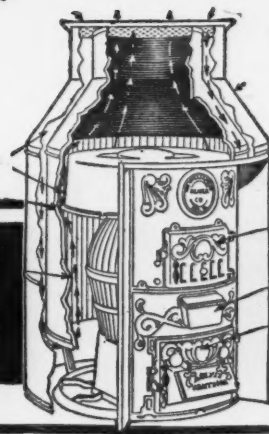
Vacuum Cleaning Systems

for the world's largest manufacturers of suction cleaning apparatus. No investment required. Good profits for hustlers. Write for interesting proposition.

In any modern building a heating plant is not more essential than a TUEC Suction Cleaning System.

Write today

The United Electric Co.
CANTON, OHIO



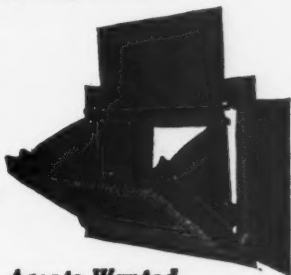
Pipeless Furnace Sales Bring Profits Fast

As a building contractor you have a splendid opportunity right now to make quick sales and profits with the Williamson Pipeless Furnace. Costly coal bills and insufficient heat have made homeowners thoroughly disgusted with the extravagance in fuel, time and labor so common to old-fashioned stoves and grates. As a consequence, the Williamson Pipeless Furnace is more popular this year than ever before. And remember that thousands are already in successful operation. Which proves that your first sale will mean other sales.

THE AUTOMATIC COAL CHUTE

Will Answer Every Requirement

Opens Automatically
Closes Automatically
Locks Automatically
Fool Proof
Order one from your
dealer or direct from



Agents Wanted

THE WESTERN IRON & FOUNDRY CO.
Wichita, Kansas

The "Best" Coal Chute

embodies every feature, every improvement that go to make it the "Best". It is constructed of Iron and fits flush with the wall—no rain can get around it. It automatically locks whether open or closed. It can be had with either wire, glass or cast iron door.

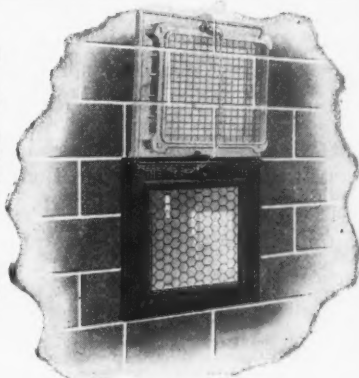
Contractors

everywhere throughout the country are making good profits installing our coal chutes. Your customers demand the best.

Write for our Catalog today

Sterling Foundry Co.

8 Ave. A Sterling, Ill.



Skeleton outline, showing position of open door

WILLIAMSON Pipeless Furnace

Saves In Many Ways

There are no doubt many among your own clients who are reading the Williamson Pipeless Furnace advertisements in the country's leading farm publications. We'll help you follow up these prospects with our personal letters. And we'll also furnish you with booklets, catalogs and folders, together with many other timely and valuable sales helps. And not only will we actively assist you in lining up prospects and closing them—we will help you install as well. Our scientifically equipped Engineering Department is ready to serve you at all times. The Williamson Pipeless Furnace is easy to install, very moderate in price, of proved efficiency and—a money-maker you can not afford to pass by. We suggest that you mail the coupon today for further details.

The Williamson Heater Company

77 W. Fifth Street, Cincinnati, Ohio

THE WILLIAMSON HEATER CO.

77 W. Fifth St., Cincinnati, Ohio

Please send me full details regarding your plan to help me make money selling and installing the Williamson Pipeless Furnace. This request is to involve no obligation on my part.

Name

Address

Business



**Home Owners Everywhere
Are Seeking**

HERO PIPELESS FURNACES

HERO Pipeless Furnaces answer every demand of the home owner. Economical to operate, for they consume the smallest amount of any kind of fuel—heating the **whole house** with one fire. Clean—takes the fire, with its ashes and dust to the basement, where it belongs.

This Is Your Chance

While new building is backward there is great activity in modernizing old homes. And one of the first things an owner considers is the installation of Hero Pipeless Heating.

Why don't **you** get this profitable business in your town?

HERO Furnaces are easy to install—take less than a day. Require no cutting of walls. Comes to you complete, easy to put up as a stove. And every HERO is guaranteed.

Write now for agency terms

Hero Furnace Company

59 West Lake Street, Chicago, Ill.

4901 37th Ave.,
Minneapolis, Minnesota

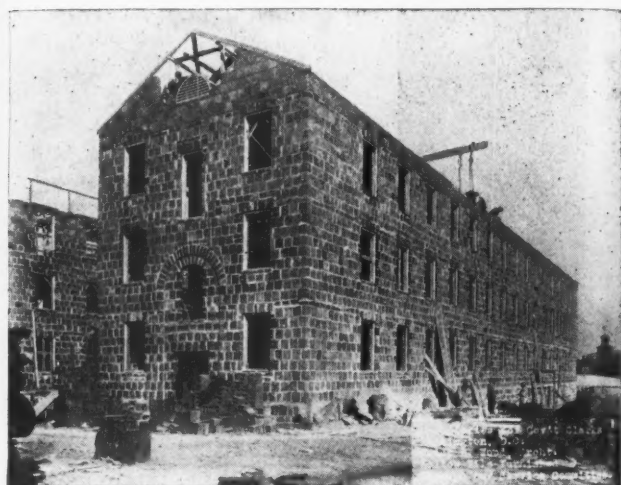
409 Henry Bldg.
Portland, Oregon

War Develops Hollow Building Tile As a National Necessity

(Continued from page 146.)

Cost of Tile Was Low

Where the question of cost was carefully gone into, it was usually found that the previously imagined excess cost of this form of construction over frame buildings was very slight, and in some cases did not exist. The tile walls showed an actual saving in the cost and only where temporary frame structures were practical, which is not usually the case in industrial housing developments, is there any real saving. The astonishingly low cost of hollow building tile construction in comparison with other types undoubtedly had a large



One of the Dormitory Buildings for Government Clerks at Washington, D. C., During the Course of Construction.

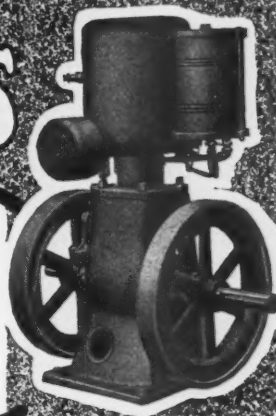
part in shaping the later policies of the several Government departments in regard to its more extensive use. Also, the ability of the industry to serve the Government and the availability of the product in any quantity required enabled the construction division and these other departments to carry out their projects without delay.

In several instances where frame houses were built, hollow building tile was used for the foundations and for all dividing walls between the group houses here by reason of the speed with which these foundations could be erected, and the fact that they were ready to receive the load of the structure almost as soon as they were finished, tile proved a factor in speeding up progress on these projects.

When the necessity for preventing a catastrophe from the spread of fire in the large temporary hospital structures was considered, hollow building tile, on account of its fire-resistive qualities, was adopted for the dividing walls in nearly all of the larger and more important structures, while several of the really important base hospitals were built thruout of this material, as were also several of the Navy Department

(Continued to page 150.)

Northwestern Engines

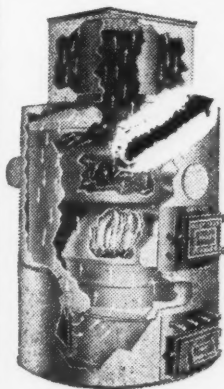


Compact, Strong, Few Parts.
Light, easy to mount and move. Four piston rings insure perfect compression and full economy of power and fuel. Water jacket completely envelops the cylinder.

Built upright, the Northwestern delivers on unusual percentage of rated power. Easy starting, smooth running and fully guaranteed to give satisfaction to the user in price and performance.

Write for Bulletin No. 4 and Prices

Northwestern Steel & Iron Works Eau Claire, Wisconsin



BOVEE COMPOUND RADIATOR PIPELESS FURNACE

A REAL FURNACE

Sold at Manufacturer's Prices

Thousands in use. Twenty-five years on the market. Burns any Fuel. Double the heating capacity from fuel consumed.

Furnished with regular Piping to each room when desired. Made in five sizes suitable for a cottage to a church.

Write us for full description and prices.

BOVEE FURNACE WORKS

50 West 8th Street, WATERLOO, IOWA

Contractors Attention!

A SPECIAL proposition to You. There is going to be a lot of building done this year.

Specify

**THE MODERN WAY
PIPELESS FURNACE**

All improvements in hot air heating systems are found in **THE MODERN WAY**. Burns hard or soft coal, coke or wood. Heats, ventilates, and gives added comfort to any home. Easily installed. It will mean big profits for you. Get into the game early! Write for information today.

The Modern Way Furnace Co.
Fort Wayne, Indiana



A Furnace With a Record

The Mueller Pipeless Furnace has proved its efficiency, economy and absolute reliability in thousands of homes in the coldest parts of the United States.

Builders and contractors can recommend it with assurance.

MUELLER PIPELESS FURNACE

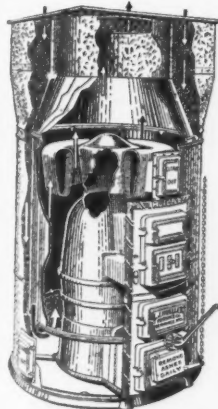
The Mueller's remarkable record is due to the fact that, in every part, it is correctly and scientifically proportioned in accordance with the laws of pipeless heating efficiency. It is **guaranteed** to heat every room of the house comfortably.

Burns hard or soft coal, lignite, coke, wood, gas or oil with remarkable economy, saving $\frac{1}{3}$ to $\frac{1}{2}$ on fuel.

Write at once for our proposition and the Mueller booklet, "The Modern Way of Heating Your Home," **FREE**.

**L. J. MUELLER
FURNACE COMPANY**

218 Reed St., Milwaukee, Wis.
Makers of Heating Systems of All Kinds Since 1857

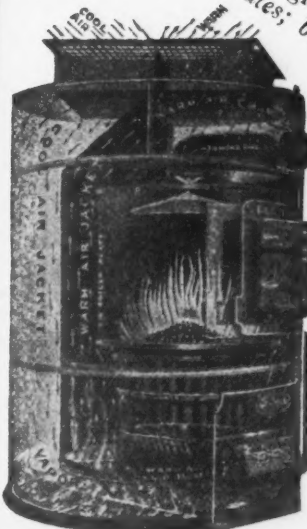


Mr. Contractor-

**More Heat
Less Trouble
Less Expense**

is the verdict of hundreds, yes, thousands, of satisfied users of **Standard Clean-Air Systems**. Can be installed by one ordinary workman in a single day. Carpenters and Contractors find it a great proposition for a side line. (Quick sales; big profits.)

**Washes Air
and Purifies It**



**STANDARD
HEATING CO.**

438 W. Ontario St.
CHICAGO

Mail the coupon.
It will open up
new means of
profits.

Coupon
I am interested in your proposition.
Name.....
Address.....

War Develops Hollow Building Tile As a National Necessity

(Continued from page 148.)

hospitals. These projects will be referred to in a later article.

Few structural materials used for strictly war purposes have enjoyed such a measure of extensive use and entirely satisfactory fulfillment of the structural and other requirements. We therefore feel that the



Group of Houses for the U. S. Shipping Board, at "Buckman Village," Chester, Pa.

future of these products is assured, that there is a great untouched field for the application of hollow clay building tile in the after-the-war period when the

country is endeavoring to catch up on its delayed construction program. As a result of the Government's extensive use of this material it is now being sought for in many small towns, cities and other localities where it was comparatively little known and seldom used in the past. It is the intention therefore of this new department of our magazine to give to the contractor and others, from month to month, complete information regarding this material and its usage. It is our intention in the next article to treat on the Government's use of hollow building tile in the manufacturing plants, storage depots, hospitals and other buildings, erected by the Government during the war period.



Apple Wood Wanted

To the Editor:

La Fargeville, N. Y.

I notice that the Henry Disston Saw Company is looking for apple tree logs, which I suppose are used for making saw handles. They want them sound and green, 12 inches or more in diameter. Of course, there are not many such logs in one place, but a few may be found and if one writes the company they will send a man to look at them.

It would look as tho there might be a few dollars in this for some of our readers.

JOHN UPTON.



BECAUSE the hostilities are over do not shift into careless spending, but thrift forward into wise saving. Buy W. S. S.

OF EVERY \$400 SPENT FOR GASOLINE
\$200 IS WASTED



Using kerosene in a 6 HP "New Way" Engine for 300 working days saves over \$200 yearly on each engine used, other sizes in proportion. You cannot afford to use any other fuel than kerosene for your power.

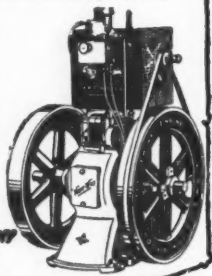
A Contractor Says

"Gentlemen:—I have used the "New Way" Throttle Governed 6 HP Kerosene engine running a 10' Eureka Batch Mixer for fourteen months. The kerosene consumption is practically identical with that of gasoline so my fuel bill is cut in half.

I have found the "New Way" Kerosene engine as easy to operate and start as any gasoline engine.

Signed V. D. Minnis.

Manufacturers and contractors will increase the efficiency and economy of their outfits by equipping them with the "New Way" Kerosene Engine.



THE NEW WAY MOTOR COMPANY
LANSING, MICHIGAN, U.S.A.

Get a WITTE

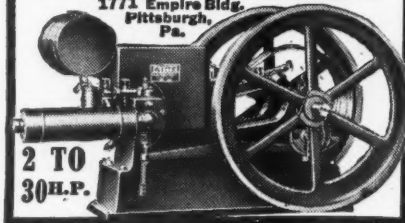
**BIG
CUT IN
ENGINE
PRICES**

**No Cut
In Quality**

I have made a big smashing reduction in engine prices—for quick shipment—all styles—all sizes—2 to 30 H. P.—Kerosene or Gasoline—Stationary, Portable or Saw-rig—Buy on your own terms. I guarantee safe delivery, make immediate shipment—guarantee every part of your engine against defects as long as you use it—no "strings"—no time limit. Write me at once for prices on this special factory direct offer. Book Free.—Ed. H. Witte, Pres.

WITTE ENGINE WORKS

1771 Oakland Ave. - Kansas City, Mo.
1771 Empire Bldg.
Pittsburgh, Pa.



The PURITY JUNIOR

**Odorless
Waterless
Germ-Proof**

Operated by chemicals that decompose all sewage, killing all bacteria and rendering the contents of the container absolutely sterile.

The Purity Junior is perfectly constructed and very simple in operation. It can be installed in any room, closet, or basement. Fittings are white enameled, giving them a very handsome appearance.



Contractors!

Outdoor Toilets are a source of great distress in winter and are germ breeding, undesirable places in summer. By installing The Purity Junior you not only reap a big profit for yourself, but you add to

the general good health and well being of the community.

Don't permit your customers to be inconvenienced by the lack of a good indoor sanitary toilet.

Purity Toilets Create Business.

Write us today.

**THE NIGHT COMMANDER
LIGHTING COMPANY
JACKSON, MICHIGAN**

RO-SAN Indoor Closet



The original chemical closet. More comfortable, healthful, convenient. Takes the place of all outdoor toilets, where germs breed. Be ready for the long, cold winter. Have a warm, sanitary, comfortable, odorless toilet right in the house anywhere you want it. Don't go out in the cold. A boon to invalids.

GUARANTEED ODORLESS

The germs are killed by a chemical in water in the container. Empty once a month as easy as ashes. Closet guaranteed. Thirty days' trial. Ask for catalog and price.

ROWE SANITARY MFG. CO.
583 Rowe Bldg., Detroit, Mich.
Ask about Ro-San Washstand--
Hot and Cold Running Water
Without Plumbing.

It is running all over the country.

Cash in on it.

AGENTS WANTED

We have a good proposition for one

CARPENTER
in each town.

Use your spare time this winter making good profits.

Write today for terms and territory.

Comfort Indoor Closet

Odorless - Sanitary - Germ-Proof

Every home without sewerage needs one. No plumbing or running water needed. Anyone can install. A boon to sick people. Placed in any room in house, in town or country. 10,000 now in use.

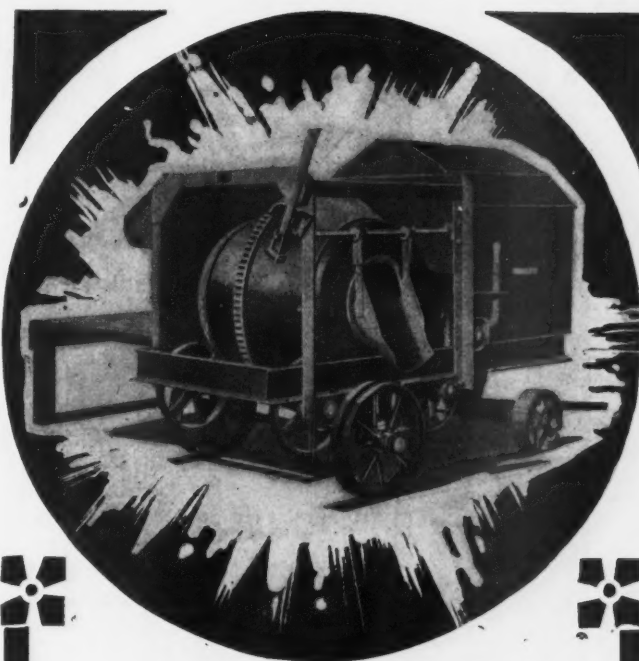
U. S. Health Bureau Approves

Says: "Chemical Closet complies satisfactorily with requirements of sanitary system. Abolish cold outdoor closet. Put a warm Comfort Toilet in your home, a guarantee of healthy, sanitary conditions. Has all the latest improvements. Germ-life killed by chemicals. Emptied once a month. Needs no other attention. State Boards of Health endorse it. Third successful year.

REPRESENTATIVES WANTED. No Capital needed. Men now making \$50 to \$75 weekly. Exclusive territory. **FREE!** Handsome Catalog. **COMFORT CHEMICAL CLOSET CO., 304 Factory Bldg., Toledo, O.**



**FREE
TRIAL**



EUREKA MIXERS

FOR fifteen years we have been supplying high grade concrete and mortar mixers, and first class contractors and builders all over this country and abroad testify that they are really **HIGH GRADE**. There are many things that make them so. We can tell you what they are, but the men who buy the mixers and have used them can tell better. We are willing to have you take their word, for we have sold more mixers through our well pleased customers than in any other way.

Let us put you in touch with some of these men, and prove to you that **"EUREKA QUALITY IS GENUINE ECONOMY."**

Write or Wire Today

EUREKA MACH. CO.

103 Handy Street
LANSING, MICH.

A REAL 1 MAN MIXER

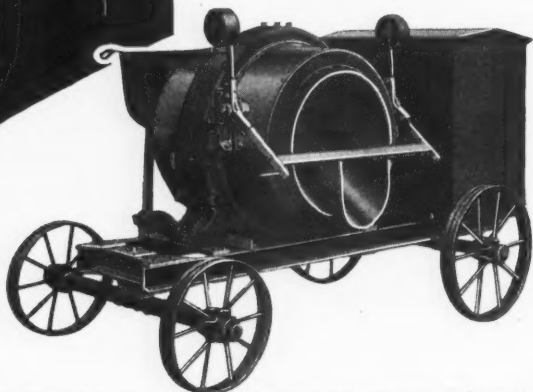


Positively the handiest small mixer ever devised. Levers *all* banked in *one* place. Raising of skip—hoisting—*every* operation within reach—*without* moving out of your tracks. Cuts deep into labor cost. *One* man does work of *two* men using other types. Big time saver. Dumps entire batch in 12 seconds. Capacity 4 full cubic feet of mixed concrete. Handles 50 to 60 cubic yards a day. Many new improvements. Important—valuable betterments. Speediest—sturdiest—most convenient Big Quality Little Mixer on the market.

Write for Free Descriptive Matter

THE T. L. SMITH CO.

3181 N. Hadley St., MILWAUKEE, WIS.



SMITH MIXERETTE

Ideal



MOULDS For Ornamental Concrete

The locking and squaring device on our moulds insures perfect alignment and increases production 25%.

Send for our portfolio of designs covering various periods of architecture. They include designs of Balustrades, Bases, Bird Bath Font, Capitals, Flower Boxes, Jardinieres, Vases, Lawn Benches, Monolithic Shafts, Lighting Standards, Sectional Columns, Pedestals, Piers, Posts, etc.

Ideal Concrete Machinery Co.
1305 Newmouth Street CINCINNATI, OHIO



Hollow Clay Building Tile Coming Into Wide Use as a Farm Building Material

(Continued from page 51.)

as a measly pest which steals some of our young chickens and turkeys and which maybe injures some of our choice seed corn which we have not protected from him quite as carefully as we should. We forget, or fail to see, the other damage which he does. We simply wish he would stay away from our buildings. But we do little or nothing to keep him away more than to keep a cat which may kill as many little chickens as all the rats on the place. And yet that "measly pest" does more damage in this country in one year than do all our fires. And three-fourths of that damage is done right on our farms, on your farm and on your neighbor's. The very least of the damage is that which we notice the most, the killing of little chickens and the damaging of our choice seed corn.

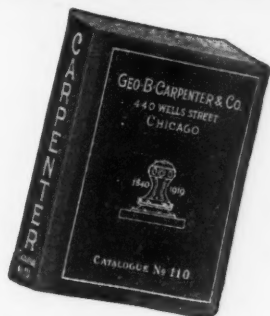
Down in Washington there is a government official who has spent his life studying the small animals of America. Several years of his life have been spent studying the measly pest, the rat. As a result of these years of study, this official says it is very conservative to state that there are at least two hundred million (200,000,000) rats in this country each year; one-fourth of them in the cities and towns and three-fourths of them in the country on farms. You will readily agree that the average rat will eat or ruin at least a dollar's worth of food in each year of his life. This means that the rats of this country destroy at least two hundred million dollars (\$200,000,000.00) worth of food each year.

The best way to protect yourself against all forms of damage by rats is to construct all your buildings of tile. A rat can never chew a hole thru a wall or a floor made of them. Tile never rots away so as to leave a hole thru which he can enter. Always keep the lower half of the doors of your buildings closed and he will never enter a building. A tile building is as rat proof as it is fireproof. It is not simply rat proof for one or two years; it is rat proof for generation after generation.

Your Buildings Will Be Time Proof

Tile are proof against decay. The germs of mold, dry rot and decay act only on vegetable and animal products, things which have "lived" at some time or another. These tile are made from the inanimate clays which lie beneath the surface of the ground, which have no living things in them. Even if there were living things in them, these would be killed and consumed by the fierce heat to which the clay is sub-

(Continued to page 154.)



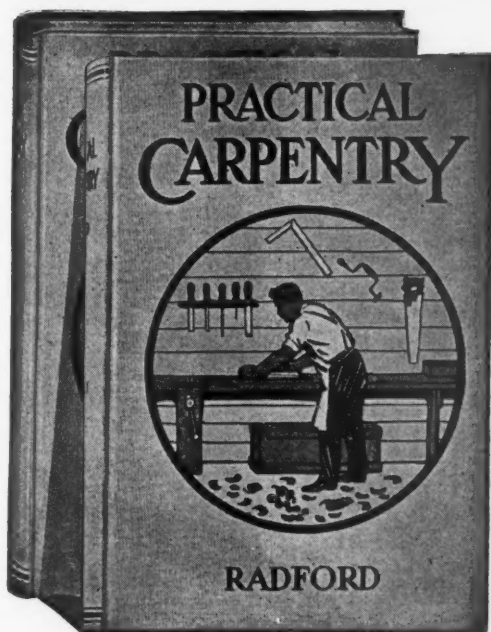
A Remarkable Catalogue Free

OVER 1100 pages—thousands of equipment items; prices that are right. Lists most everything—from adzes to zig zag rules—hundreds of things you use in your business.

That's why we call it a remarkable book and you'll agree when you receive your copy. Send for it today. It's free. Address Dept. 1.

Equipment for Contractors, power plants, mills, mines, railroads, steamships, machine shops and all forms of industrial activity.

GEO. B. CARPENTER & CO 440 NO. WELLS ST. CHICAGO



Two volumes of reliable textbooks to which to refer in work that is new and unusual. **PRACTICAL CARPENTRY** is the most complete, most accurate, most practical and most up-to-date work of its kind. It describes the best and quickest methods for laying roofs, rafters, stairs, flooring, mitering, coping, splayed work, circular work, and, in fact, for forming all kinds of joinery and carpentry work.

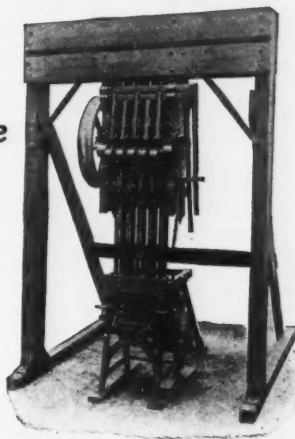
Bound in cloth, over 600 pages of useful and necessary information. Complete information from foundation to roof.

Price \$2.00 Postpaid
American Builder
1827 Prairie Ave., Chicago

Ideal

Concrete Machinery

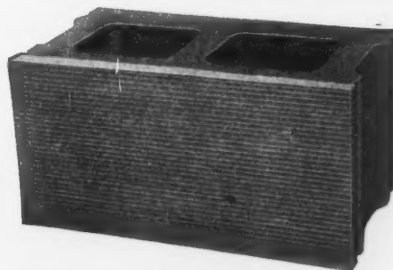
The Ideal Machine



Hand
and
Power
Outfits

Catalog 28

For the manufacture of concrete block offers an opportunity of engaging in a business that is both pleasant and profitable.



*Ideal
Con-
crete
Block*

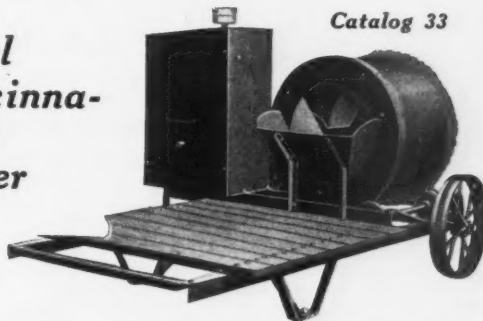
Is a building material which combines the modern principles of fire, wind and weather-proof construction with the artistic.



*The
Result*

Of furnishing such a product to the farmer for residence, barn or silo is a satisfied customer and a finished job which will bring other customers thru its appearance of solidity, permanence and beauty.

Ideal Cincinnati Mixer



Catalog 33

Sizes
5 to 22
cu. ft.

Because of their compact, sturdy construction, light weight and easy portability are just the mixers for putting down a feeding floor, foundations, walks and for every kind of concrete work.

Ideal Concrete Machinery Company
1308 Monmouth Street
Cincinnati, Ohio

Hollow Building Tile Coming Into Wide Use as a Farm Building Material

(Continued from page 152.)

jected in the process of making the tile. So there are no germs of mold, dry rot or decay which can act on these tile to weaken them in time.

They never rust. The fierce heat to which they are subjected in the process of manufacture so acts upon the minerals contained in the raw clay that they are unaffected by the attacks of air or moisture. They are neither rusted, nor are they dissolved away. Their size, shape and strength remain unchanged thru succeeding generations of owners or users of the buildings made of them.

They Need No Paint

You never have to paint them. Hard burned clay building tile will absorb less moisture than will any other class of building material you can use. What little moisture may be absorbed, never penetrates to the other side of the wall. And it has no destructive action on the thin outer layer which it may succeed in entering. So no paint is necessary to make the wall dry, or to protect it against decay or decomposition. Since the hard burned clay of these tile is not soluble in water, they never lose their color. So paint is never

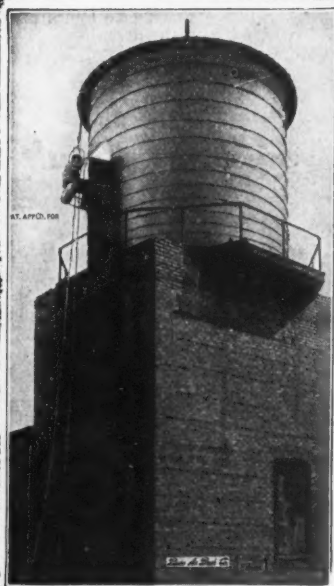
needed to maintain the good looks the buildings had when they were new. These good looks are as permanent as the walls themselves. Beauty is not simply skin deep, it is the full depth of the wall.

Hollow clay tile buildings are not unalterable. If a future change in your farming methods makes an alteration in a building desirable, it can be made as easily as it could have been made had you used any other building material. If a future enlargement in your farming operations makes an addition to any of these buildings desirable, that too may be made easily. And when you have finished making an addition or alteration, the old walls will be just as tight, just as durable, just as serviceable and attractive as they were before the change was made.

Your Buildings Will Be Heat Proof

A building constructed of hollow clay building tile will be warm in winter and cool in summer because it is wind proof, because it is dry, and because the dead air chambers in it prevent the transfer of heat thru the walls. Note that it will be warm in winter and at the same time will be cool in summer. The same conditions which keep the heat of the animals from escaping from the building in the winter time also keep

(Continued to page 156.)



PAASCHE PORTABLE PAINTING OUTFITS

SAVE TIME, LABOR AND MONEY

Contractors will find no modern labor-saving invention that really makes them as much money as the Paasche Painting Equipment. With this equipment one man does the work of from four to eight men. This immediately reduces the cost of both exterior and interior painting.

QUICKER--BETTER--CHEAPER

From thirty to forty square feet of paint is easily applied per minute, and being applied by compressed air a cleaner, smoother and more uniform finish is obtained. The same smooth finish is given the roughest corners and edges, hollows, laps, and irregular joints.

The Paasche Painting Outfit is equipped to do all general painting, calcimining, varnishing of floors and all around decorating and finishing. From largest battleship or building to the smallest job of decorating, the Paasche Outfit will do it better and at a great saving.

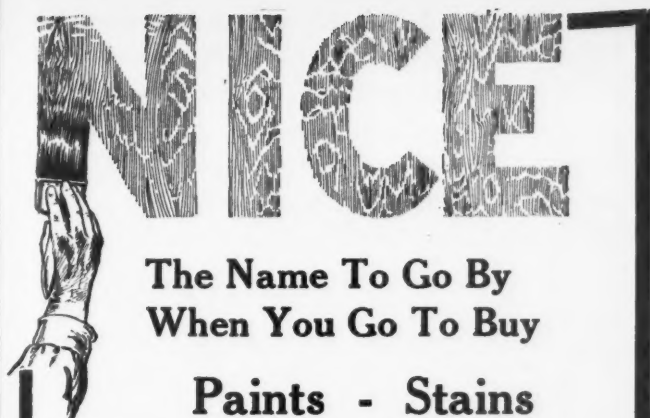
The United States Government uses Paasche Portable Painting Equipment in all railroad and shipbuilding yards and wherever paint is needed.

CONTRACTORS

Can you afford to do less than investigate a proposition that offers you such an opportunity? Write today for complete information. It will make you money.

Paasche Air Brush Co.

1230 W. Washington Blvd., Chicago, Ill., U. S. A.



The Name To Go By
When You Go To Buy

Paints - Stains Varnishes - Wood Fillers

There's a special "NICE" product for your every use, perfected by over 40 years of practical, painstaking, paint and varnish making experience.

Let us send literature and prices.

EUGENE E. NICE

PHILADELPHIA, PA.

CAMDEN, N. J.

CALCIMINES AND WATER PAINTS

These materials are so much cheaper than wall paper and oil paints, and are so much better than lime wash that every wide-awake builder and owner should investigate them fully, learn which are the most practical, and find out how much they will help to reduce costs.

Calcimines are glutinous compositions intended for decorating ceilings and walls of residences, offices, schools, churches, theatres. The best are called **MURALITE** and **CALCITINE**.

Water Paints are caseinous compositions intended for whitening ceilings and walls of factories, mills, sheds, garages, stables.

The best is called **PERMANITE**.

Our products are more practical than any similar ones on the market, and are sure to please you.

Send for descriptive cards and prices

M. EWING FOX COMPANY

Manufacturers

240 East 136th St.
NEW YORK

1501 So. Peoria St.
CHICAGO, ILL.

Painted in 3 Minutes

with brush

with spray



*I*N 3 minutes 6 square feet were painted by brush and 30 square feet by the

Aeron System
Painting System

Portable Painting Equipment

In these figures on one painting job you have the average saving in time and labor with this spray-painting equipment.

Practically the same advantage is to be had in painting either inside or outside work, and regardless of the kind of surface coated and the variety of paint used.

In addition, with the Aeron the operator is enabled to coat the hard-to-reach places, and those impossible to paint with a brush, as evenly and completely as he does the more accessible surfaces. Dripping and other wastes are done away with. There is no replacing of costly brushes.

The outfit is easy to operate and to move any place. The construction is simple and dependable, requiring very little upkeep expense. It is adapted to different paints without any changing of parts.

The time, labor and money saving possibilities of this System of painting are as big on one kind of job as another. Write and let us mail you operation and equipment facts that apply to your individual requirements.

The De Vilbiss Mfg. Co.

1276 Dorr Street

Toledo, Ohio

*All Aeron Equipment sold on a strictly
guaranteed-to-make-good basis*

TYPEWRITER SENSATION

FREE TRIAL

Use as You Pay

Only \$4.00 a month until the low total price of \$53.15 is paid, and the machine is yours.



This is absolutely the most generous typewriter offer ever made. Do not rent a machine when you can pay \$4.00 a month and own one. Think of it—Buying a \$100.00 machine for \$53.15. Cash price, \$50.35. Never before has anything like this been attempted.

STANDARD VISIBLE MODEL 10 SMITH PREMIER

Perfect machines, Standard size. Full 84 character one motion keyboard. The easiest to learn and simplest to operate. The entire line of writing completely visible at all times, has the tabulator, the two color ribbon, with automatic reverse, the back spacer, ball bearing carriage action and ball bearing type bars. In fact, every late style feature and modern operating convenience. Comes to you with everything complete; tools, cover, operating book and instructions, ribbon, practice paper—nothing extra to buy. You cannot imagine the perfection of this beautiful reconstructed typewriter until you have seen it. I have sold several thousand of perfect latest style machines at my bargain price, and every one of these thousands of satisfied customers had the beautiful, strictly-up-to-date machine on five days' free trial before deciding to buy it. I will send it to you F. O. B. Chicago for five days' free trial. It will sell itself, but if you are not satisfied that this is the greatest typewriter you ever saw, you can return it at my expense. You won't want to return it after you try it—you cannot equal this wonderful value anywhere.

You Take No Risk—Put In Your Order Now

When the typewriter arrives, deposit with the express agent \$9.15, and take the machine for five days' trial. If you are convinced that it is the best typewriter you ever saw, keep it and send me \$4.00 a month until our bargain price of \$53.15 is paid. If you don't want it, return it to the express agent, receive your \$9.15 and return the machine to me. I will pay the return express charges. This machine is guaranteed just as if you paid \$100.00 for it. It is standard. Over one hundred thousand people own and use these typewriters and think them the best ever manufactured. The supply at this price is very limited, the price will probably be raised when my next advertisement appears, so don't delay. Fill in the coupon to-day—mail to me—the typewriter will be shipped promptly. There is no red tape. I employ no solicitors—no collectors—no chattel mortgage. It is simply understood that I retain title to the machine until the full \$53.15 is paid. You cannot lose. It is the greatest typewriter opportunity you will ever have. Do not send me one cent. Get the coupon in the mails today—sure.

HARRY A SMITH, 300, 218 N. Wells St., Chicago

H. A. SMITH, 300, 218 N. Wells Street, Chicago, Ill.

Ship me the Smith Premier F. O. B. Chicago, as described in this advertisement. I will pay you the \$44.00 balance of the SPECIAL \$53.15 purchase price at the rate of \$4.00 per month. The title to remain in you until fully paid for. It is understood that I have five days in which to examine and try the typewriter. If I choose not to keep it I will carefully repack it and return it to the express agent. It is understood that you give the standard guarantee for one year.

NAME

ADDRESS

.....

Hollow Building Tile Coming Into Wide Use As a Farm Building Material

(Continued from page 144.)

the outdoor heat from entering the buildings thru the walls in the summer time. And it is just as important to have a house or a livestock building cool in summer as it is to have it warm in winter.

No wind will penetrate the wall of a building made of tile. The walls are eight or more inches thick, with tight mortar joints between the individual tile. No cracks develop in these walls with age. They are just as wind proof one or more generations later as they are at the time they are built. The winds may howl around them to heart's content of the "weather god," but it will not penetrate these walls. You and your animals will be just as well protected from the winter winds as tho you were in a deep cellar.

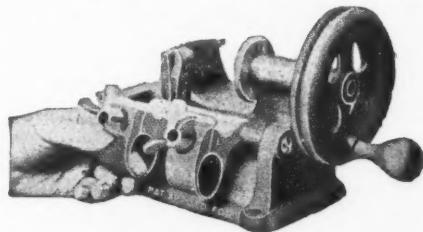
It takes more heat to warm a building with wet walls than with dry walls. Walls built of tile are dry. What little moisture may soak into the outer web of the tile can never penetrate thru it to the web on the inside of the wall. So even tho a deluge may rage against the outside of the wall for hours, or even for days, the inner wall toward the animals will remain dry.

"Dead air" is the world's best insulation, or protection against the transfer of heat. Less heat will travel thru a dead air space one inch thick in any given length of time than thru one inch of any building material used. And in a wall built of tile there are several inches of dead air spaces thru which the heat must travel in getting into or out of the building constructed of them. This dead air space is divided into two or more cells in each tile. This makes the wall practically three times as heat proof as tho the air were all in one big, thick cell. It is no wonder that buildings constructed of them are warm in winter and cool in summer.



Key Cutter with Rigid Vise

The intricate burglar-proof locks that are used in buildings of all types will not permit using a key that is not accurately cut. The variation of a thousandth of an inch often makes the key useless.



Key Cutter and Vise.

To obviate this slight variation in key cutting a machine has been designed with a unit vise that, it is claimed, will hold the blank so that the cutting will be accurate. The advantage is that the vise has not two pieces to be kept in perfect alignment.

(Continued to page 158.)

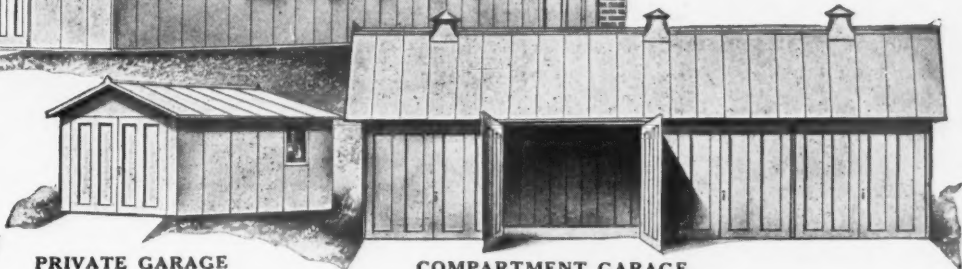
Big Profits for Contractors and Builders



"Prudential" Steel Buildings

Rent Them as Garages.
Bring 50% Yearly Returns
Sell Them to Farmers
Install Them for Quick Profits
Write Us for Details.

**Permanent
Yet Portable
Light
Sanitary
Easily Erected**



BIG PROFITS

You contractors who have a piece of vacant property, put Prudential steel garages on it and rent them. We have actual records showing that steel garages erected even on leased land pay over 5 % yearly returns. Sell Prudential steel buildings to your customers. You make money in less time and give your customers more satisfaction.

Write today, Mr. Contractor, if you are in search of a "Live Wire" proposition. Ask for Catalog No. 200.

OFFICE AND FACTORY
Bay rd and Warner Sts.
Baltimore Maryland

The C. D. Pruden Company

NEW YORK OFFICE
66 Pine Street

FARM--FACTORY OR HOME

Prudential steel buildings are made for—Factory Extensions—Stock Rooms—Shipping Rooms—Engine Rooms—Bunk Houses—Boiler Houses—Corn Bins—Tractor and Implement Houses—and a dozen other farm necessities that are rat proof, fire and lightning proof, and can be demounted and moved at will.

R. H. Co.

ESTABLISHED
1849

STAR SECTION
GALVANIZED AND COPPER COVERED

LIGHTNING RODS
100 PER CENT EFFICIENT

Greater Profits

For contractors who wish to utilize their time and build up a wide reputation. By installing Star Section Lightning Rods you are doing the utmost for your customer and pocketing a big profit each month.

Seventy years of successful manufacturing of lightning rods guarantees to the contractor that he is handling the product that will give his customer the most complete satisfaction. There is no greater asset than satisfied customers. We have some "territory" in which we want more reliable representatives. You can serve your own best interests by writing us at once regarding this unoccupied territory.

You cannot afford to delay—it is territory that yields great profits to wide awake contractors.

WRITE FOR OUR PROPOSITION

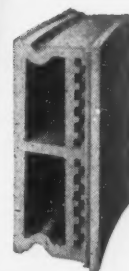
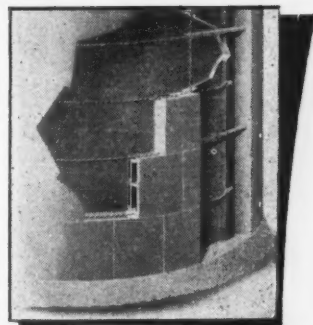
The Reyburn-Hunter-Foy Co.

815-819-821 Broadway Cincinnati, Ohio

REYBURN-HUNTER & CO. Successors to E. A. FOY COMPANY
Philadelphia-Chicago Cincinnati



CONSTRUCTION FEATURES



The Lansing Block

Note the deep groove in top and bottom for extra thick layer of cement, the fluting which keeps mortar from slipping.

FOUND ONLY IN

Ever-lasting

Lansing
Vitrified Tile Silo

Better Silage

LANSING Tile Silos are favored by farmers everywhere because they combine all the necessary features of good silage with the everlasting, repairless qualities of tile. That is why they should be your choice as an agency proposition. No Builder will fail to recognize superior construction features and the selling points they represent.

Lansing Tile is the best for Grain Bins. Rat, rain, dust and damp proof. Once a farmer is convinced of tile superiority this construction goes into every bit of building he does. Lansing Tile builds business.

Write for descriptive booklets. Dept. 340
Investigate TODAY.

J. M. PRESTON COMPANY
LANSING :: :: MICHIGAN

Key Cutter With Rigid Vise

(Continued from page 156.)

The accompanying illustration shows the machine. The wheel is grooved to permit operation by power, while a handle is attached for hand power. Features of the machine are its simplicity of construction and operation, a shoulder guide that insures the accurate setting of the key and the ease with which the machine can be adjusted.



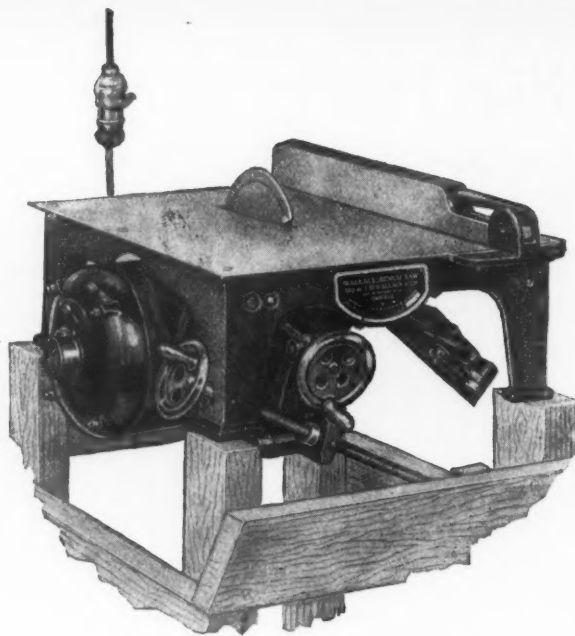
New Power Bench Saw

A small power saw that can be set alongside the bench where it is easily accessible is a machine that will be appreciated by every carpenter, patternmaker and cabinetmaker. Operated by an electric motor, this saw can be started or stopped in an instant and is available for small or large cutting jobs.

Such a bench saw recently was put on the market and is similar to the bench planer that is so popular among carpenters and woodworkers.

This portable bench tool is designed to operate on the electric lighting circuit, yet it has ample power to take a full two-inch cut thru the hardest of wood, making it possible to use the machine for 80 per cent of the work done by hand or on the big circular saw in the pattern, cabinet, jobbing or contracting carpenter shop or woodworking plant.

Several new features have been incorporated in this machine. To cut at an angle the saw is tilted on the bench instead of by cocking up a heavy table. The saw can be tilted to an angle of 45 degrees, making it possible to cut



Portable Power Bench Saw That Is Driven by an Electric Motor. The Saw Tilts to Cut at an Angle of 45 Degrees.

long stock without fear of breaking the angle by the long stock coming in contact with the floor. The operator is working on a table which is always in a horizontal, safe and efficient position. The exact angle of the cut is set without much difficulty by simply spinning the hand wheel until

(Continued to page 160.)

OUR FREE PLANS

should be in the hands of every contractor and every farmer who is expecting to build a new crib or granary.

They are money-makers for the contractor, easy to understand and show how to get the greatest capacity with the least expense, by installing Meadows Stationary Inside Cup Elevators.

THE MEADOWS

is convenient and economical. It elevates small grain as well as ear corn. It is easy to install.

Don't Delay

writing for our plans and catalogs, which tell you all about our outfits and their money saving application.

**MEADOWS
MFG. CO.**
PONTIAC, ILL.



WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER



Specify "Porter"

When you make your plans for barn or other building you can select nothing that will satisfy your client more than a **Porter Door Hanger**. Remember that the name Porter signifies completeness—that the Porter hanger will fill the bill in economy, convenience, practicability.

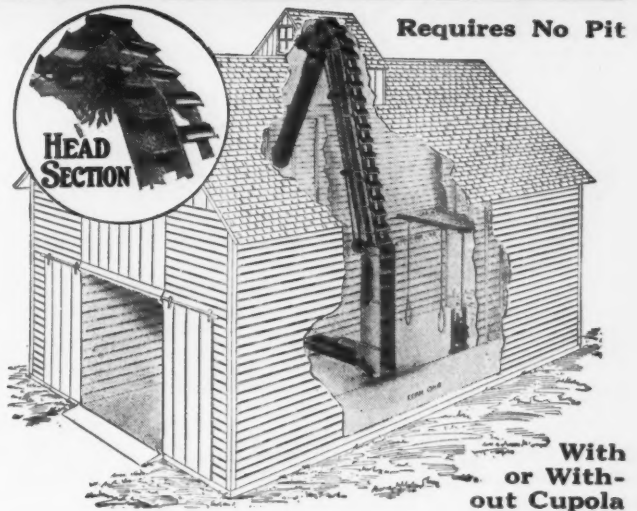
"Double V" and "Hummer" Door Hangers

The Porter line is complete. There is a wide variety of models and a wide range of price. But whatever the price or model, you may be sure that the value is there—that dealer, builder and client get the worth of their money.

Porter hangers have all standard strength and durability and besides a number of exclusive features that make them highly desirable. And back of them stand Porter experience—50 years of it—and the **Porter guarantee**.

J. E. Porter Co.
472 Guilford St.
Ottawa Illinois

(40)



Put Up Modern Cribs

Equipped with the
National Giant Bucket Elevator

The "National Giant" has more desirable features for you to base your recommendation upon and more **sensible features** for the **FARMER** than can be found on any other make of inside grain elevator. Why? Because on cribs 30x32 ft. or less, with half-pitch roof, it is not necessary to have a cupola. Saves the farmer money. When cupola is necessary, we can save the farmer from \$15 to \$30 with the National Giant. Ask us why, please. We also save the farmer the cost of digging a pit, and on the other length of elevator required. Dump logs may be furnished when pit feeder is desired.

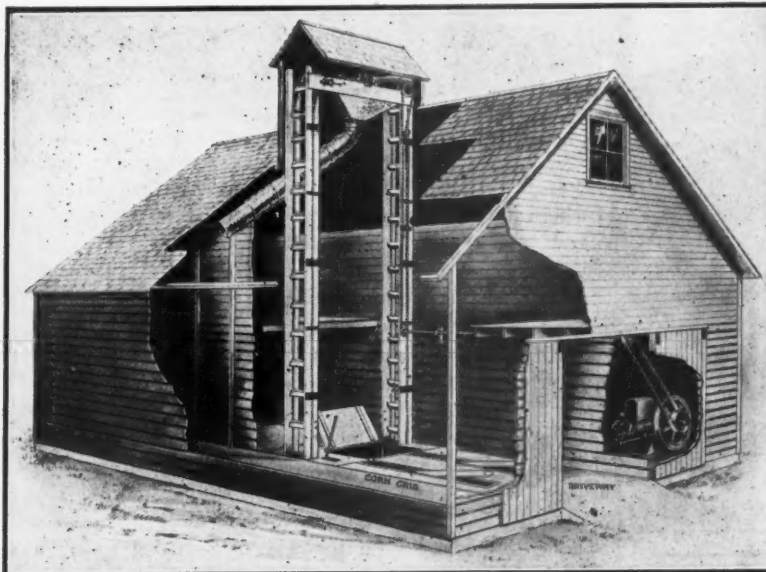
Elevators are equipped with No. 77 chain. Buckets hold a peck. Does not shell corn, because feeder empties directly into mouth of bucket. Short distance delivery means lightest draft. Has no overhead gearing. Other features just as sensible.

Write for Carpenter-Contractor Proposition,
Wonderful New Catalog and FREE Crib Plans

**Portable Elevator Mfg. Co., 834 East Grove St.
BLOOMINGTON, ILL.**

IT'S A "MEYER"

says the Farmer proudly when speaking of his elevator. The name "MEYER" means so much more than the ordinary on a cup elevator. They are so much more satisfactory—shell less ear corn, waste less grain, and require less power to operate than any other elevator.



The "Meyer" set the standard years ago because of their mechanical construction. Their simplicity and durability make it possible for them to render the greatest service at all times. That is why Farmers want the "Meyer" in preference to any other. Furnished with pit also lifting jacks.

Carpenters and Builders

Write at once for our free crib plans and illustrated catalog, which show eight styles. Protect yourself on your territory and reap a handsome profit.

A. F. Meyer Mfg. Co.

301 Wilson Street - Morton, Ill.



Save \$43.00 This Easy Way

Here is your opportunity to own a genuine Oliver, Model 9, for \$57. The identical model formerly priced at \$100. Not a single change has been made in the machine in order to make this astounding reduction in price.

Only our sales plan has changed. We learned new economies during the war. We found it unnecessary to have great numbers of traveling salesmen and numerous, expensive branch houses throughout the country. We were able to discontinue many other superfluous, costly sales methods. You benefit by these savings.

Free Trial

We ship the Oliver for free trial. You can keep it for five days. Use it as if it were your own. All without paying one cent in advance.

If you agree that it is the finest typewriter regardless of price, and want to own it, merely pay us \$3 per month until the \$57 is paid.

If you want to return it, ship it back, express collect. We even refund the out-going transportation charges.

During the trial you are the sole judge. No eager salesman need influence you.

\$3 Per Month

Our easy plan makes it possible for all to own a typewriter. And to use it while paying. There is no need to rent.

You obtain the same wonderful mode used by such big concerns as U. S. Steel Corporation, Pennsylvania Railroad, Encyclopedia Britannica, Otis Elevator Company, Nat'l City Bank of N. Y., and others of equal rank. Over 700,000 Olivers have been sold!

No Typewriter is finer. It is noted for its workmanship, speed and durability. It is easy to learn. It has a standard keyboard. And all the latest improvements. If any typewriter is worth \$100 it is this splendid Oliver.

Mail the coupon now for our remarkable booklet entitled "The High Cost of Typewriters—The Reason and the Remedy," sent free, together with details of our plan. Then you may order a FREE Trial Oliver.

Canadian Price, \$72

The Oliver Typewriter Co.

2404 Oliver Typewriter Bldg., Chicago, Ill.

(48 03)

THE OLIVER TYPEWRITER COMPANY, 2404 Oliver Typewriter Building, Chicago, Ill.

☐ Ship me a new Oliver Nine for 5 days' free inspection. If I keep it, I will pay \$57 at the rate of \$3 per month. The title to remain in you until fully paid for.

My shipping point is _____

This does not place me under any obligation to buy. If I choose to return the Oliver, I will ship it back at your expense at the end of five days.

☐ Do not send a machine until I order it. Mail me your book—"The High Cost of Typewriters—The Reason and the Remedy," your de luxe catalog and further information.

Name _____

Street Address _____

City _____ State _____

Occupation or Business _____



New Power Bench Saw

(Continued from page 158.)

the angle desired is registered on the dial in front of the machine. No time is wasted in adjusting the machine.

The tilting mechanism is controlled by a hand wheel mounted on a perfectly cut screw acting on a swiveled nut.

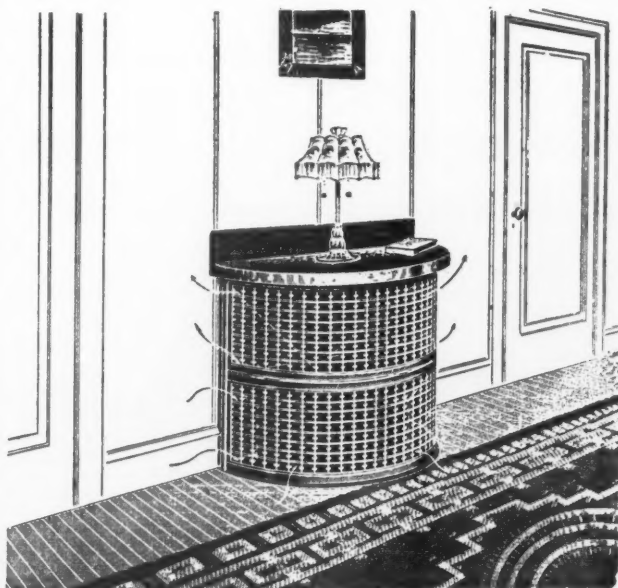
This swings the cradle in which the motor, driving mechanism and saw are mounted. While it is very easy to make this adjustment, the screw holds the table rigidly. The saw can be raised and lowered so as to cut or groove the stock any depth up to two inches. A ½ horsepower motor supplies ample power.

The crosscut fence is built into the machine, but can be removed when not in use. The rip fence is finished on both sides so that it can be used on either side of the saw. A shutter saw guard is built into the machine and is always on guard.



Artistic Crown Furnace Register

Because the hot and cold air ducts of the register installed with the pipeless furnace must be large and should be raised above the floor level, manufacturers have been bending their energies toward making them more serviceable, as well as more efficient. The projection into the room was not slightly, but when equipped with a top it can be used for a variety of purposes.



Improved Register for Pipeless Furnaces.

Herewith is shown a drawing of the interior of a room where the register is set in a partition, thus throwing heat into and taking the cold air out of two rooms. An air space between the top of the hot air flue and the semi-circular table keeps the latter cool and makes it available for use as a small library table.

The second illustration shows a sectional view of the same type of register, revealing the air ducts and space for air circulation. This register is made in a number of different designs suitable for the living room and dining room and for stores, schools, banks and other public buildings. In stores the register is so constructed that it can be used for a stand on which to display goods, or placed under a counter. In banks it is installed under a writing desk for the use of customers.

(Continued to page 162.)



Valuable FREE BOOK for Carpenters and Builders

While city building is lagging, farm building is booming to take care of bigger crops and more live stock. Let us help you get this business.

LOUDEN BARN PLAN BOOK

Is a 112-page treatise, solving authoritatively all barn-building problems. 74 suggestions for barns and farm buildings of all sizes and styles with floor plans and estimated cost. Shows cross-section views, details of floor, roof and truss construction and cost estimates given. Lighting, ventilation, drainage, concrete work and silo-building discussed.

Not a catalog. Invaluable for every carpenter and builder. Mailed free postpaid upon receipt of one or more names of prospective farmer-builders in your locality. Write today.

Get also new Louden 224-page general catalog covering full line of modern barn equipment. "Everything for the Barn." Louden Overhead Carrying Systems for garages, factories, warehouses, etc., are most practical, an urgent present-day need.

THE LOUDEN MACHINERY CO.

(Established 1867)

5521 Court St.

Fairfield, Iowa

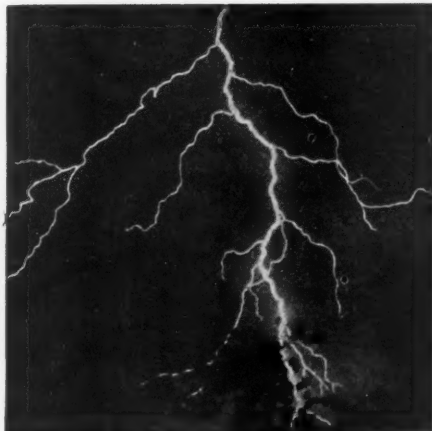
The Architect's Standard

THE architect's wishes and needs are met in Yale Builders' Hardware. In ornamentation and design every school is represented by a variety of product, in styles that are appropriate, graceful and correct. "Yale" meets every requirement.

This fidelity to "school" and "period" is one reason why the architectural profession has made "Yale" the accepted standard by which all Builders' Hardware is judged. We illustrate Yale "Colonial" designs in door set and knocker—a popular combination for any variation of colonial treatment.

Correspondence with architects is invited on any hardware subject on which our experience might prove of value.

The Yale & Towne Mfg. Co.
9 East 40th Street New York City



Taken from Actual Photograph

Lightning Rods

CARPENTERS — BUILDERS

MAKE BIG EXTRA PROFITS WITH

BARNETT SYSTEM GUARANTEED Lightning Protection

Why let the big extra profit go to the other man after you have done the hard work erecting the buildings? This easy profit belongs to you. You are the logical man right on the job to install this protection on every building you erect. The owner's confidence in you will make it easy to secure this additional work and profit on the same job. Why not make \$50.00 to \$75.00 per week extra?

Our Rods are in big demand. Made of pure copper endless cable, no rust (no joints) with attractive fixture. Easily put on buildings. Two hours extra work rods the building, and puts profit in your pocket. Money back guarantee with each job. Hundreds of our Carpenter agents began in a small way, now doing a big business. Secure the agency now. Write today for free Catalog, Cable Samples, and Prices.

Complete set of tools furnished free with first order of 500 feet or more.

JOS. L. A. BARNETT & CO., Cedar Rapids, Iowa



Make Your Basements WATER TIGHT

by using Bitu-Mortar Waterproofing Compound. Liquid, for waterproofing cement coatings—powder for waterproofing mass concrete—dampproofing, for interior surfaces of masonry walls. Inexpensive and everlasting. Write for our catalog.

The Bitu-Mortar Waterproofing Co., Inc.

**BITU-MORTAR
WATERPROOFING
WATERPROOFING PERMANENTLY**

Engineers, Contractors and Manufacturers,
340-344 East 27th Street New York, N. Y.

Moore's Reinforced Concrete Lumber



Was designed to meet the demand for low priced fireproof garages. Simply set the staves up and bolt them together.

**NO MASON
NO MORTAR**
Make concrete lumber and supply the demand. Write for particulars.

Merrill Moore :: Box 33 :: Creston, Iowa

Artistic Crown Furnace Register

(Continued from page 160)

Progress in the construction of these registers is doing much to make pipeless furnaces more popular with the owners of buildings where they will accomplish their purpose.



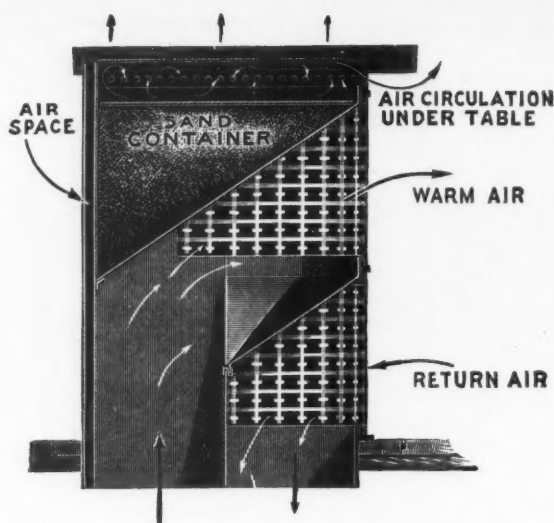
Unshed American Blood and the "Victorious Fifth"

THE readers of the AMERICAN BUILDER know that the most optimistic last year among the country's citizens did not believe that the Great War, then making shambles of France and Belgium, could possibly be terminated before the contemplated big "spring drive" this year by the Allies. In fact, few really expected the conflict to end sooner than the summer of 1919.

But something happened that completely upset all the plans of the wisest of the war prophets. Uncle Sam started to build an army of 7,000,000 fighting men. He appropriated money for enough aeroplanes to darken the German skies. He built factories to make enough poison gas bombs—1,000 to every one that Germany could possibly make—to smother to death the entire German army of millions. By this spring he would have had on French soil enough tanks to place one every 75 feet along the western front. He had his plans all completed for enough ships to bridge the ocean, and for increased naval strength that would have destroyed or have driven every German U-boat from the seas.

What Was the Result?

These tremendous big-scale war operations became known to the German government and so alarmed the Kaiser and his fellow arch-criminals that it broke their faith and morale, as well as the faith and morale of the German army and German people, and caused the Prussians to do a thing



Sectional View of the Crown for a One-Register Furnace

absolutely unheard of in history—unconditionally surrender while they occupied enemy territory.

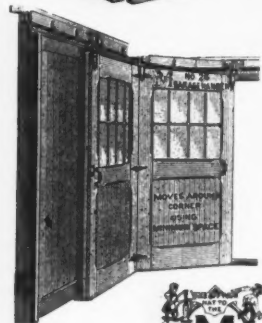
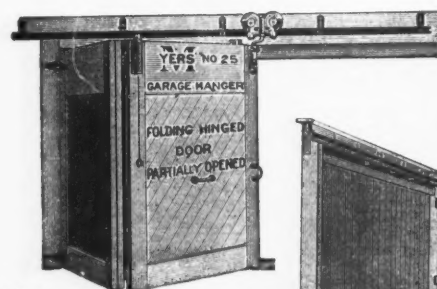
Germany lost its nerve, turned tail, like the yellow dog it was and capitulated to the stern demands of the Allies' armistice.

Now comes a startling fact, as the result of this surrender of the foe, due to America's vast preparations to continue the war. The statistics branch of the War Department at Washington, basing its figures on the gradual increase in the number of Americans on the fighting line, has issued an official statement to the effect that, had the fighting continued another six months, 100,000 MORE

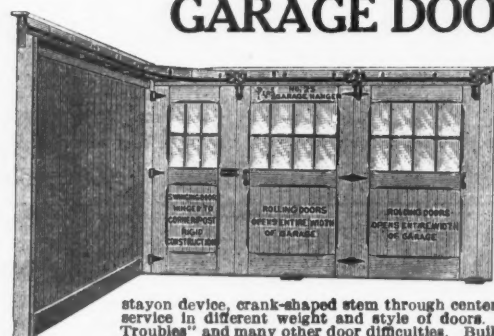
(Continued from page 164)

No. 25

For Inside or Outside Sliding or Folding Doors

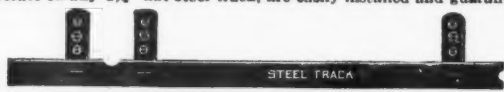
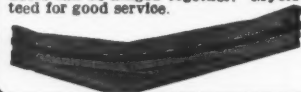


MYERS GARAGE DOOR HANGER



Most every dealer, carpenter, contractor and builder is familiar with MYERS DOOR HANGERS. They know the name MYERS on a door hanger indicates quality in sliding door service. For this reason the MYERS RIGHT ANGLE GARAGE DOOR HANGER has been exceptionally popular for in it are found a combination of practical patented features which produce a wide range of possibilities in sliding doors. This Hanger is designed for inside or outside sliding or folding doors on any building. It can be used with any 1 1/4" flat steel track, a section of which can be easily curved for corner when installed on the inside. It has heavy malleable iron frame, tandem rollers, steel roller bearings, adjustable features, double stayon device, crank-shaped stem through center and other improvements which permit a wide range of service in different weight and style of doors. Storm and weatherproof, it overcomes "Winter Door Troubles" and many other door difficulties. Building time is approaching—you will be interested in this Hanger—your trade will be more than pleased with it. Why not get in touch with us today by asking for prices and catalog, which not only shows the Myers Garage Hanger, but eleven other styles of Stayon and Tubular Hangers for sliding doors on any building? Our Spring Delivery Prices and Terms are very favorable. Write.

Doors hung on the inside with MYERS GARAGE DOOR HANGERS are highly successful—they permit doors to slide around the corner on the inside, out of the weather, out of the way, leaving entrance clear. No swinging doors to crash into—no snow to sweep or ice to chop during winter months. They occupy small space and any number of doors can be hinged together. Myers Hangers operate on any 1 1/4" flat steel track, are easily installed and guaranteed for good service.



F. E. MYERS & BRO.,

No. 110 Orange Street, ASHLAND, OHIO
Manufacturers of PUMPS, HAY TOOLS, DOOR HANGERS



YOUR CONFIDENCE IN US IS OUR GREATEST ASSET



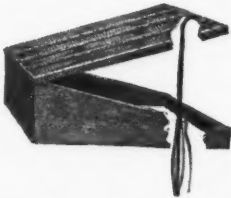
Your belief in our products and in us is what we are striving to obtain.

We have spent many years in learning how to build Architectural Sheet Metal Products of the highest QUALITY.

We have spent an equal amount of time and a vast amount of energy in developing a SERVICE that is unequaled.

With our QUALITY and SERVICE behind you, you will obtain the UTMOST in sheet metal products.

Send for our Number Seven Catalog which contains 180 pages of useful information to the Contractor and Architect. Send us a list of your requirements or a set of plans and specifications for our estimate. Plans will be returned promptly with estimate.



THE WILLIS MANUFACTURING COMPANY

104 North Academy

GALESBURG, ILL.

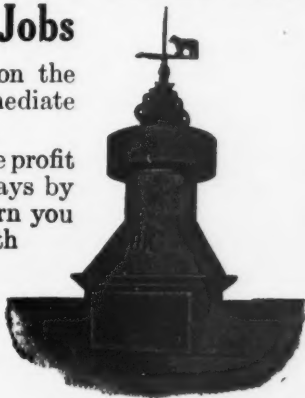


More Profit on Each Job ---and More Jobs

Profit two ways on the jobs you do — immediate profit — reputation.

You will make more profit on your jobs both ways by seeing that every barn you build is equipped with

**O K
Cupolas**



They win the gratitude of the owner and build up your reputation and good will.

O K Cupolas are easy to erect, shipped ready to install. Absolutely bird, storm, rot and rust proof. Made of heavy galvanized steel. Neat in appearance. Owners realize the importance of having their barns well ventilated; take advantage of this opportunity by recommending the best.

Special prices to contractors and builders where we are not represented.

Let us show you the way to get more profits and more jobs. Full information sent free. Write today.

Phillip Bernard Co.

2402 Floyd Avenue

Sioux City, Iowa

Insist Upon Having *Badger* Sheet Metal Products

Badger Building Specialties and other sheet metal products have been standard for years. They are quality goods that are guaranteed to give you satisfaction and save you money.

Ask Your Dealer

Hardware, Implement and Lumber dealers everywhere sell Badger products. Your dealer can supply you if you insist. Look for the Badger trade-mark. It is your guarantee of service and satisfaction. Complete catalog upon request.

The Badger Line Includes

| | | |
|------------------------|-------------|--------------------|
| Cornices | Skylights | Eaves Trough |
| Finials | Ventilators | Conductor Pipe |
| Sheet Metal Roofing | | Metal Barn Battens |
| and Siding | | Metal Ceilings |
| Galvanized Screw Joint | | Hip Shingles |
| Well Casing | | Ridge Rolls |
| Hog House Skylights | | Galvanized Tanks |

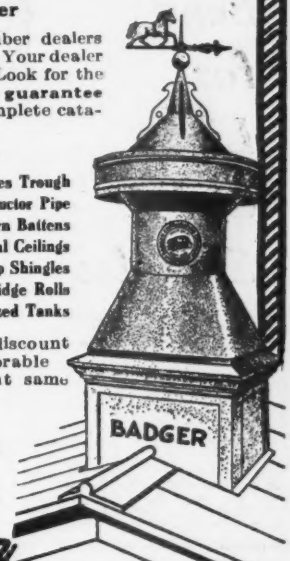
Dealers: Write for catalog and discount sheet. Large capacity and favorable location insure prompt shipment same day your order is received.



Badger Corrugating Co.

Dept. 00.

LA CROSSE, WISCONSIN





Big Little Money Savers

*Kees
Money
Saving
Devices
for
Carpenters
and
Builders*

*Send
for
List
and
Samples
to Dept.
552*

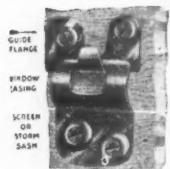
Kees

(Gossett)

Screen and Storm Sash Hinges

Will Make A Hit With Your Trade

A Woman Can Easily Hang Screens or Storm Windows equipped with these unique Hinges.



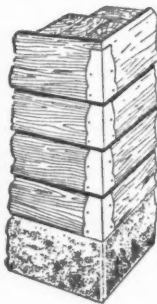
Large Hanger Opening and Guide Flange Make Hanging Easy

Ordinary sash hinges are so designed that it is a back breaking job to hook them on. Kees slip on easy.

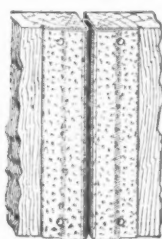
Kees Metal Building Corners Are Big Sellers

Because they cost no more than corner strips, require much less work to put on, and make a better job—for the

Joints Can't Warp Open Treated to take and hold paint like wood and practically invisible when painted. Patterns are plain and do not offend the eye—give the effect of an artistic mitered corner without the expensive work of fitting the siding. Made for all widths of lap siding and shingles and for Nos. 106, 109 and 117 Drop Siding.



Kees METAL BARN BATTENS for Vertical Siding



Will please your trade because they'll add durability to barn, chicken house, granary or garage.

Will not split, warp or work loose

while freely permitting siding to warp or shrink as it will. Keep joints tight, rat and weather proof. Make buildings warm, wind and rain proof. Made of tight, coated, galvanized iron, packed in strong crates.

How They Work



Before and After Siding Shrinks



Lengths 5 to 12 Feet

Ready to apply

Show Your Customers These Items You'll Do Them a Favor

Sold by most Hardware and lumber dealers--If yours can't supply you, write us.

Unshed American Blood and the "Victorious Fifth"

(Continued from page 172.)

AMERICAN BOYS WOULD HAVE FOUND GRAVES IN EUROPE, exclusive of the tens of thousands of other Yankee warriors who would have been maimed or crippled for life.

Remember, these figures are not mere guess work, but OFFICIAL, and are based upon the mortality ratio experienced in the fighting in France and the number of men that would have been engaged in the fighting within the six months.

THE MONEY THAT WAS SPENT BY THE UNITED STATES IN SCARING GERMANY TO DEATH IS THE MONEY THAT WE MUST RAISE IN THE COMING VICTORY LIBERTY LOAN, and we feel confident that every reader of THE AMERICAN BUILDER will as understandingly, willingly and patriotically do his full share in subscribing to the "Victorious Fifth" as he did in the preceding Loans.

The responsibilities of the new period of reconstruction are no less great than those which arose in the crisis of the war itself. It is for us of the United States to do our sacred duty as fully now as when we struck the decisive blow as a nation and preserved to the free peoples of the earth the basic principles of humanity and civilization—liberty, freedom, fraternity and equality.

It still remains for us to see that all which was won on the battle fields is saved for liberty; that the stricken people of the countries devastated by the Huns do not starve, and that there is prompt and intelligent rebuilding and restoration in ravaged Europe.

We must bring back to their own land and to their own homes the millions of our men who helped win the Great Victory. They must once more, with thought and care, be fitted into our national life. Great projects begun in time of war must be finished or redirected.

All of these tests are part of the great enterprise of peace and reconstruction. All of them must be financed in the next few months before us. To carry them out is absolutely necessary, if we are to complete our share of the work which has been carried so far forward.

Every reader of THE AMERICAN BUILDER—every man and every woman in the nation, who has shared in the blessings of peace won by the war, should prepare now to share in the Great Peace Loan—the "Victorious Fifth."

We must supplement the patriotism of war with the greater patriotism of peace. Buying securities of the Victory Liberty Loan will do this.



Metal Lath Association Offices Moved to Chicago

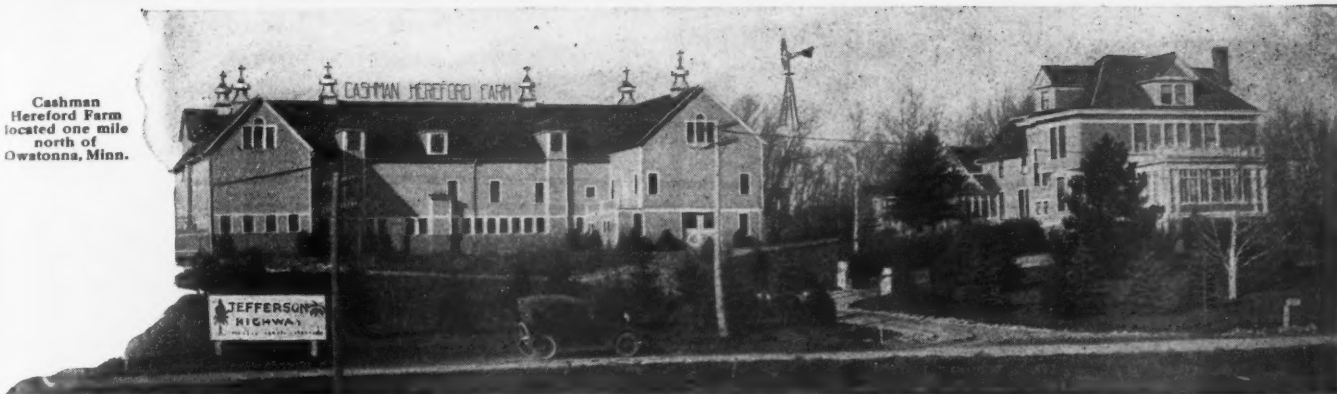
A LONG with many other patriotic organizations, the Associated Metal Lath Manufacturers moved their offices to Washington to be in constant touch with building operations centering in the capital, enabling them to be of utmost service to Uncle Sam.

Now that steel is no longer needed for martial equipment and is again released in large quantities for peace time uses, the ten metal lath manufacturing companies have decided that the office of their association could more effectually aid in the solution of many problems which are continually coming before the industry, and render service to the building profession generally if they were more centrally located. In line with this thought they have decided to establish their office in the city of Chicago.

(Continued to page 166.)

F.D. Kees Mfg. Co. Beatrice, Nebr.

Cashman
Hereford Farm
located one mile
north of
Owatonna, Minn.



YOU DECIDE

To a Large Extent On How the Farm Buildings In Your Community Look

In driving through the country, how are people impressed with your work?

Do they say: "That's a beautiful barn. It has King Aerators. I'll bet 'Jones' built it."

You can make King Aerators your best advertisement. King finished barns have an individuality. They stand out in a community. People can tell King Aerators when they

see them. They are unlike any other ventilator. They are more beautiful in design. They have a better, brighter finish in a silver gloss.

King Aerators are the first part of the King System of Ventilation. Every King System is designed to fit the building. Let us plan King Systems to fit the barns you build and help you give your customers better looking, properly ventilated, more satisfactory barns.

Write for our new catalog.



The King Aerator is the first part of the King System and it can be used with or without the other parts of the system on any farm building, new or old. Because of its unusual beauty many farmers put the King Aerator on their barns simply to beautify the buildings.

King Ventilating Co., 1202 Cedar St., Owatonna, Minn.

KING System of Ventilation



Provide All Your Buildings With "ROYAL" VENTILATORS



They are best to use on Cattle and Dairy Barns where lots of fresh air is necessary to insure healthy cattle and milk that is free from odors.

Fresh air is the greatest enemy to disease and decay. Hay and grain keep better in ventilated barns. Factories, schools and theaters require perfect ventilation. Supply it with ROYAL Ventilators.

Catalog and particulars on request
ROYAL VENTILATOR CO.
417 Locust St., Philadelphia, Pa.



The "PERFECT" BARN VENTILATOR

Special Prices to dealers for April
AN EXTRA PROFIT FOR YOU

KLAUER MANUFACTURING CO.
Dubuque, Iowa

CHIEF ALL-STEEL CUPOLA

New-improved, scientifically designed ventilating cupola for all buildings. Up-to-date in design, material and construction. Used and approved on hundreds of farms. Made of heavily galvanized steel with base strongly braced. Can't rust, rot, or blow off. Absolutely storm-proof and bird's-nest proof.

Easy to Install—Sure to
Please Your Customers

Chief Cupola saves time and labor installing—base bolts directly to roof and cupola bolts to the base. Only six bolts needed. Meets all requirements—insures adequate ventilation—satisfies all users. Write for full description, prices, etc.

Schrauger & Johnson Co.
430 Walnut Street, Atlantic, Iowa



"It Lasts Like the Pyramids"



**REILLY'S
WEATHERWAX**
The Liquid Wax Paint

The economy paint without an equal. Goes twice as far with one-fourth the labor at half the cost. Waterproofs. Prevents decay. Penetrates wood and remains as long as the building stands. A permanent wood protection. Flat even finish. No brush marks. Non-fading dark colors—Red, Maroon, Dark Brown, Natural Brown (clear), Black.

Sample on request. Send for color chart and prices.

THE REILLY COMPANY, Indianapolis, Ind.
Factories: Indianapolis Minneapolis Mobile Seattle Norfolk

Weatherstrip Prices Are Lower

ALLMETAL WEATHERSTRIP will make money for you in your home town. It's easy to sell and so simple any mechanic can put it on.

Send for details on making casements air and waterproof.

A big chance for a hustling agent.

Get our new price list.

Allmetal Weatherstrip Company
226 W. Madison St. Chicago, Illinois

25c FOR THIS ONE DOLLAR PORTFOLIO of Color Schemes

Exteriors and interiors, also floor plans and specifications for finishing every room in the house—a big collection of color plans. Illustrations in full color. This Portfolio actually costs one dollar each—we send it for 25c to cover packing and postage—giving you this big value to get you acquainted with the softest tone flat wall paint—an oil paint that shows no laps or brush marks.

PATTON'S VELUMINA

Patton Paint Co.
Milwaukee, Wis.

Metal Lath Association Offices Moved to Chicago

(Continued from page 164)

Wharton Clay, formerly of Chicago, has been elected commissioner. He is an architectural engineer, graduate of the University of Illinois and identified with the fire-proofing department of the United States Gypsum Co. before the war.

During the war he was appointed civilian aid to the adjutant general of the Army and handled the many recruiting campaigns for men of special qualifications needed by the Army. His offices in Chicago were the focusing point of these activities of the Military Training Camps' Association in 1,300 cities west of the Alleghenies. Fully 300,000 men were placed in special positions in the Army thru this organization. Mr. Clay is a member of the Western Society of Engineers, and the advancement of fire-proof construction is his hobby.

C. O. Powell, formerly with the Northwestern Expanded Metal Lath Co. as sales engineer and advertising manager, has become associate commissioner. Mr. Powell, during the time of his connection with the Northwestern Expanded Metal Lath Co., was chairman of the committee of advertising managers of the association, and has had years of experience in the selling and promotion of metal lath. This experience is now being made available to all architects and builders thru the association.



Sproat Joins New Way Organization

The New Way Motor Co., manufacturers of air-cooled gas engines, celebrated St. Patrick's day by taking Harry J. Sproat into the organization as secretary and factory manager. Mr. Sproat for two years has acted as works manager for the Olds Motor Works, of Lansing, Mich. The New Way factory administration has been turned over entirely to Mr. Sproat, who is given a free hand to increase quantity and quality production.

Previous to accepting the position of works manager for the Olds Motor Works, Mr. Sproat was for eleven years in charge of the manufacturing equipment plant of the American Radiator Co., Buffalo, and prior to that he gained valuable experience, after receiving his master's degree as a graduate engineer of the University of Michigan, with the U. S. Lake Survey, the Detroit Shipbuilding Co. and the Kewanee Boiler Co., Kewanee, Ill.



Builders Should Advertise in Their Local Papers

ARE you, as an individual member of the building industry, giving the "Build a Home" movement the support it deserves? Or, in other words, are you taking advantage of the opportunities this country-wide advertising campaign offers you for personal profit?

Advertising has two distinct functions. One is to create a demand. This is called "general publicity" advertising. The other is to direct the demand created. This is called "direct" advertising.

Millions of readers of the magazines and newspapers are being told that now is the time to build a home. The joys of home-owning are being presented to them by words and pictures.

The desire to have a home this advertising creates in the reader should be directed to the local contractors, architects, material dealers and others who are interested in building.



YEARS OF EXPERIENCE

in the manufacture of high class saws makes it possible for us to offer you the best saws made today.

We know just how to temper them for a "lasting edge"—just how to shape them and just the right weight to make them.

THE MECHANIC

should be proud of his tools and you will be if you add to your kit a genuine SIMONDS SAW.

Buy it from your dealer or direct from us.

SIMONDS MFG. CO.

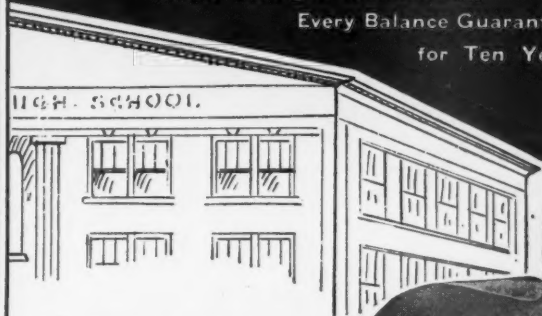
"The Saw Makers"
FITCHBURG, MASS.

Pullman Unit Sash Balance

Cost Less than Cords, Pulleys and Weights.

Labor Saving in Installation.

Every Balance Guaranteed
for Ten Years.



PULLMAN Unit Sash Balances are especially adapted for use in School Buildings, Residences, and Factories, or wherever a smooth running, unbreakable, and practically noiseless Sash Balance is required. The Pullman UNIT Sash Balance is made entirely of steel. Over six million in use.

Hundreds of School Buildings throughout the country are entirely equipped with the Pullman UNIT Sash Balance and are giving entire satisfaction.

Pullman UNIT Sash Balances are approved by Fire Underwriters' laboratories for Fire Proof Buildings.

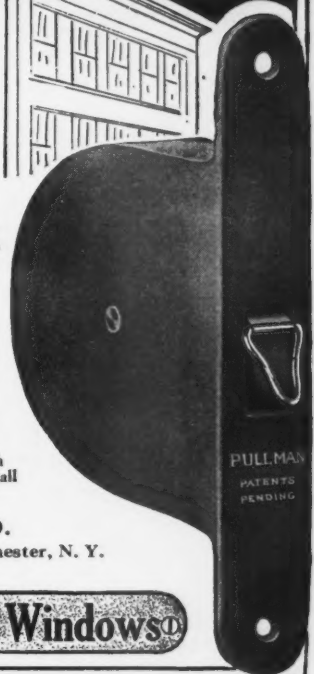
Write today for illustrated catalog with blue prints showing how easy to install the Pullman UNIT Sash Balances.

PULLMAN MFG. CO.

10 Industrial St.,

Rochester, N. Y.

Pullmanize Your Windows



Strong, Durable and Practicable

Say You Want

SHELBY GARAGE DOOR HOLDERS

for they are built to give you service and satisfaction. The rod is $\frac{1}{2}$ inch round by 33 $\frac{1}{2}$ inches long. The brackets are made of heavy wrought steel. Easily installed; a child can operate it, and the cost of purchase is so small that it appeals to all auto owners. Will hold the door open and lock it when closed. Ask about them.

The Shelby Spring Hinge Co., Shelby, Ohio



THE H. B. IVES CO.

NEW HAVEN, CONN., U. S. A.

ESTABLISHED 1876

INCORPORATED 1900

MANUFACTURERS OF

BUILDERS' HARDWARE

HIGH GRADE WINDOW AND DOOR SPECIALTIES

Write for Illustrated Folder

"STRICKLER"

HAY TOOLS

and Sanitary

BARN EQUIPMENT

Steel Stalls, Cow Stanchions, Litter Carriers, Feed Carriers, Watering Bowls. Every modern barn should be equipped with Strickler goods. All Carpenters and Contractors should send for our FREE CATALOG and Builder's Proposition. Write Today.



STRICKLER HAY TOOL CO., Janesville, Wisconsin



WHITE

Broad Axe

Stays Sharp Longer

The same quality as our adze—you know what that means.

Write for Our Free Carpenters' Catalogue.

THE L. & I. J. WHITE CO.

10 COLUMBIA ST.

BUFFALO, N. Y.

ROOFING SLATE

The Value of Your Judgment

WHEN your opinion is asked about roofing, you can go the limit in urging the use of slate.

Slate is fireproof; it will outlast the building; it doesn't need paint or stain; it won't rust, rot, crack, tear, chip, warp or disintegrate; it doesn't absorb water nor is it affected by heat or cold. And it is the world's most economical roofing.

Your judgment can never be questioned when you recommend slate. Forty quarries are at your disposal.



VENDOR SLATE CO.
Largest Shippers of Roofing Slate in the World
BANGOR PENNSYLVANIA



"Save Space" is Keynote in Home Building

(Continued from page 25.)

Any or all of these systems are now being manufactured to suit almost any sized home. The basis of practically all of them, however, is a gas engine, located either in the basement or in an outbuilding near-by. With power, the home owner can have running water and electric light. Where there is no water system, the chemical closet provides a clean, sanitary convenience; where there is water, a sewage disposal system brings this convenience to the country home.

All of these conveniences are so closely related in their operation, one to the other, that when one is obtained the others can be had for little additional expense.

Methods of installation of electric lighting systems, gas plants, water systems and other conveniences would require considerable space. But the builder should keep in mind that the manufacturers of the various systems are always ready to co-operate with him in problems of this kind.

Little Touches That Make the Home

Closet room is one of the conveniences that every housekeeper likes. Closets, however, take room. But there are ways of making the closet give the most

(Continued to page 170.)

Natural Slate Blackboards



Send Your Requirements To Us For Estimate

WHEN you are awarded a school-building contract, with slate blackboards specified, write us at once for an estimate.

Not only will we promptly state the total cost, but we will relieve you in every way possible by supplying helpful information.



Natural Slate Blackboard Co.
Pen Argyl, Pennsylvania

Go Carefully Into the Comparative Cost of Sheldon's Slates and Artificial Roofings

You will find that you can have an attractive roof of

SHELDON'S SLATES

at the cost of a flimsy artificial roof. And the first cost will be the only cost—there will be no renewing, repairing or repainting.

Ask for Interesting Booklet "The Roof of Eternal Youth" Fully Describing Sheldon's Slates.

Roofers: You can make money laying Sheldon's Slates. Write.

F. C. Sheldon Slate Company
Granville, N. Y.



ROOFING SLATE

G. F. T.

Roofing Slate
Everlasting—Beautiful

The roofing whose first cost is the only cost and that retains its superb richness of color as long as the building stands. **Genuine Franklin Tunnel Slate** is absolutely Fire-proof. Water-proof and Decay-proof. Free Samples and Prices on request.



Slatington Slate Co.
Slatington, Pa.

MANUFACTURERS OF ROOFING
"SLATES OF QUALITY"

MOTTLED GREEN AND PURPLE—WEATHERING GREEN
UNFADING GREEN—MAMMOTH VEIN POULTNEY SEA GREEN
GENUINE BANGOR FROM OUR CELEBRATED BANGOR UNION QUARRY
BLACKBOARDS—STRUCTURAL SLATE
SLATER'S TOOLS—MACHINES & SUPPLIES

We furnish "SLATES OF QUALITY" in random widths, graduated thicknesses and in one or varied colors. SEE SWEET'S CATALOGUE.

THE AULD & CONGER CO.

ESTABLISHED 1870.

We publish a handy book
"THE SLATE ROOFER" CLEVELAND, O.

Shower and Closet Stalls

SLATE is becoming more and more appreciated for closets, showers, etc., and its use is rapidly increasing.

All the advantages of san-

itation, economy, durability and suitableness would fill pages, so we shall merely suggest that you employ slate in your next club, public building or factory job.



The Structural Slate Co.
Manufacturing Five Carloads Daily
Pen Argyl, Pennsylvania



HELP WIN THE WAR—by steady work—full time—six days a week.
—Secretary of Labor.

5 volumes, each 5½ x 8½ inches; bound in American Morocco; flexible, handy style; 2138 pages and more than 400 illustrations, plans, blue prints and diagrams.

This 5-volume Cyclopedia of Carpentry and Contracting is the very latest—most complete—most practical work of its kind ever published. It covers everything you need to know about carpentry and the contracting business—it explains every problem, great or small—every modern approved method gathered from hundreds of different sources.

The combined work of 25 well known men, each an expert in his own particular field, is what this cyclopedia gives you. Every detail of construction is discussed thoroughly from the beginning of the plans to the finished building—from humble cottages to the large, modern, fire-proof structures.

No man engaged as a carpenter or interested in the building and contracting business can afford to do without these books. They will create a new earning power in you and in every man from the carpenter's helper to the head of the business. Every chapter will give you a world of valuable information that you could get only with years of experience before. Besides this, a year's consulting service in the American Technical Society is yours FREE.

This Is Only a Part of What the Books Contain

and every one of these subjects is divided into all of its possible classifications and treated separately in detail. There are 75 pages on STAIR BUILDING alone, covering 24 different propositions. There are 90 pages on BLUE PRINT READING, giving the latest up-to-the-minute information and instruction for reading all the different types, and an expert analysis of 60 different kinds of Blue Prints. 220 pages are devoted to BUILDING SUPERINTENDENCE, divided into 145 different sections.

Carpentry (including everything from the raw timber and tools to the trimming and turning over to the owner)—Stair Building—Steel Square—Plastering and Painting—Mechanical Drawing—Blue Print Reading—Architectural Drawing—Sheet Metal Work—Building Superintendence—Underwriters' Requirements—Heating and Ventilating—Steam and Hot Water Fitting—Sanitary Appliances—Water Supply—Drainage and Venting—Domestic Hot Water Supply—Hardware—Estimating—Contracts and Specifications—Legal Relations—Building Code—General Index and Review Questions and Index to each volume.

Free Consulting Service With these books goes free of all charge a \$12.00 Consulting Membership. If any question puzzles you—write us. Our corps of experts and engineers will solve any problem. Ask all the questions you want for a whole year. This service is absolutely FREE.

SHIPPED FREE! DON'T SEND ANY MONEY

Don't take our word for it that these books will make more money for you. Find out for yourself without any expense or obligation by sending us the coupon (with the three lines filled in) today. This will bring all five volumes to you at once; you pay the small express costs and use them as if they were your own for 7 days. Then if you think you want to get along without the advancement they will bring you, send us \$2.00 as first payment and \$2.00 each month until the special introductory price of \$17.80 is paid. The regular price is \$25.00.

AMERICAN TECHNICAL SOCIETY
Dept. CC-1824 Chicago, U. S. A.

AMERICAN TECHNICAL SOCIETY, Dept. CC-1824 Chicago

Please send me the 5-volume Cyclopedia of Carpentry and Contracting, shipping charges collect. I will send you \$2 in 7 days and \$2 each month until the special price of \$17.80 is paid, and you will send me a receipt showing the books are mine. If I decide not to buy I will return the books in 7 days.

Name.....
Address.....
Reference.....

SEND THE COUPON NOW

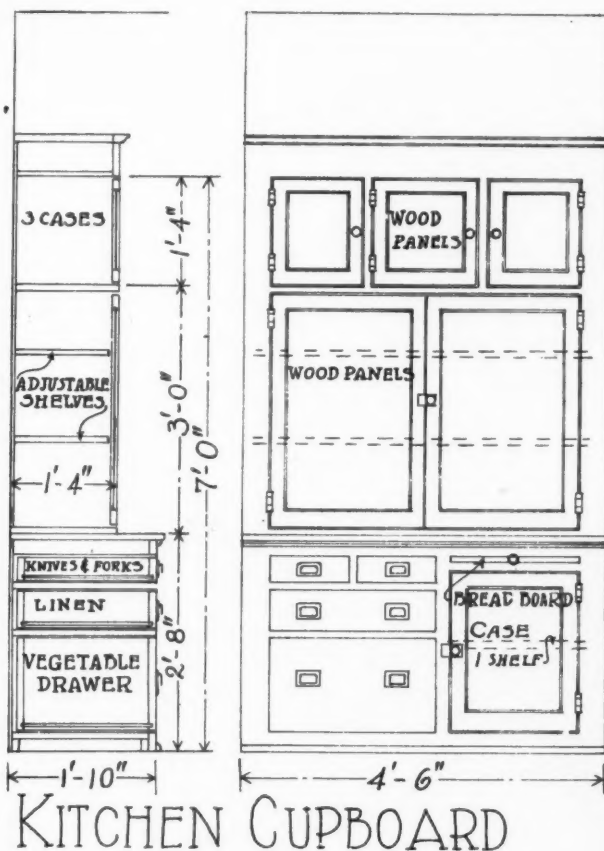
WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

"Save Space" is Keynote in Home Building

(Continued from page 168.)

service it is capable of. A chest of drawers adds greatly to the storage space, while the addition of a pole provides a place for many more garments than can be hung on hooks along the wall. Then, too, there is the built-in wardrobe that takes little space, being shallow, but provides an excellent place for storing clothing.

While the suggestions made are all good, there are many places where the builder can see chances to install some little convenience that it would not be practicable to incorporate in all homes. When he is

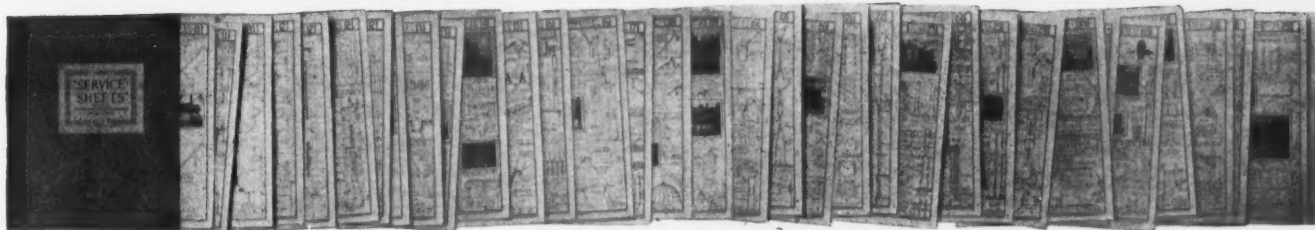


KITCHEN CUPBOARD

building these will appear to him, and as he is in almost constant consultation with the owner, especially of a small home where he is both architect and builder, it is an easy matter to come to a decision regarding them. Space may be saved in the attic by the use of wallboard. Many times the attic is capable of being turned into a bedroom by the construction of walls and may be made into a comfortable and pleasant sleeping room.

What it is desired to emphasize is that the builder who saves space and at the same time gives his client a maximum of convenience, thereby giving a full measure of satisfaction, is the man who is going to have his reputation and business increased with every home he erects.

THE UP-TO-DATE LIBRARY OF CONSTRUCTION INFORMATION



Above illustration, 1-22 actual size, showing some of the sixty-six "Service Sheets" published to date.

"SERVICE SHEETS" are DETAILED data sheets showing the CORRECT and most EFFICIENT USES of up-to-date building materials.

They are prepared by expert draftsmen under the supervision of Architects and Engineers who are specialists in their line. Each Sheet covers a subject or phase of a subject by means of details carefully drawn to scale. Sample specifications and other usable data are presented on the backs of Sheets. A complete cross index accompanies each edition.

Judge for yourself, let us send you names of users typical of the thousands of Architects and Engineers in private practice, and in the employ of Railroads, Industrial Plants, Contractors, Builders, Municipalities and Governments located all over the world. Save time, trouble and expense—write today for full particulars and list of subjects covered.

ARCHITECTURAL SERVICE CORPORATION, 150 N. 6th St., Philadelphia, U.S.A.

KRAGSTONE
AMERICAN MAGNESIA PRODUCTS CO. CHICAGO
STUCCO

The
Stucco
That
CREATES
Business!

One *Kragstone* job follows another. The most beautiful and durable stucco ever produced. 300% stronger than cement stucco. Wonderful elasticity. Easy to apply. *New or old buildings.*

Ask for interesting, illustrated new *Kragstone Book*. Free to builders. **WRITE TODAY.**

Construction Materials Company

135 West Washington Street Chicago, Illinois

EXCELSIOR WIRE LATH

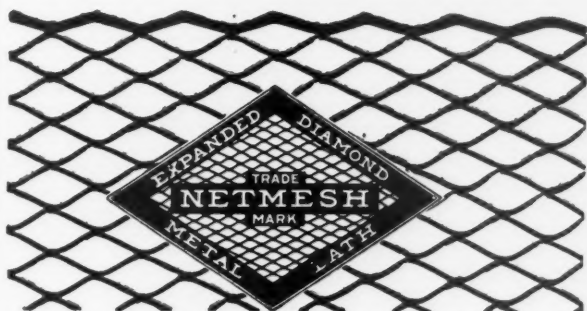
is woven of steel wires of great tensile strength. The small amount of exposed metal surface permits the plaster to go through to the back and key tightly, making a wall of a solid sheet of stone with a rigid steel core, a fire retarding wall—itsself unburnable. When properly put up, rust and disintegration cannot take place. A strong, even selvage permits easy handling and tying.

Write for Booklet

WRIGHT WIRE COMPANY

Excelsior Wire Products Worcester, Mass.

Because Metal Lasts



"NETMESH"

Expanded Diamond Metal Lath is fire-proof, ratproof and will not swell or shrink. Made in 27, 26, 25 and 24 gauge. The best backing for plaster or cement. Prevents cracking of plaster. Send for circular entitled—

"No Man Hath a Better Lath"

Sample of Lath Sent on Application

Milwaukee Corrugating Co.

Branch at Kansas City, Mo. Milwaukee, Wis.
Minneapolis Branch, 929 Lumberman's Ex.



The Story in Book Form Fully Illustrated

THE field for Steel Ceilings and Sidewalls of Berger quality is unlimited.

This 80-page book puts before you in clear form advantages, methods of erection and suggestions for finishing, as well as illustrations of many patterns and finished ceilings.

A request to the nearest Berger Office brings it promptly.

The Berger Mfg Co., Canton, Ohio

BRANCHES: Boston New York Philadelphia Chicago
St. Louis, Minneapolis San Francisco
EXPORT DEPT.: 816-524 W. 25th St., New York City

BERGER

EXPANDED METAL LATH-FLOOR CORES-REINFORCING PLATES-METAL LUMBER
STEEL FILING CASES-LOCKERS-FACTORY STORAGE BINS AND SHELVING
STEEL CEILINGS-ROOFING-SIDING AND OTHER PRESSED STEEL PRODUCTS



NO W—IS YOUR OPPORTUNITY FOR PROFIT

THE MANY HOMES that have barren porches or those that are in need of a better equipment, or new screens, are money makers for you.

OUR PEARL PORCH PLAN, sent free for the asking, will enable you to show how simple and inexpensive it is to equip a porch and add an extra room which will serve as a delightful sun porch by day and a cool sleeping room at night, protected against disease carrying flies and mosquitos.

INSURE THE EXCELLENCE OF YOUR WORK and the satisfaction of your customer, by specifying PEARL Wire Cloth. Due to its metallic coating, patented and controlled by us, PEARL is longest lasting—costs less in the long run—needs no painting—no repairs—is the best looking and the most sanitary.

BEWARE of imitations. Screen materials that are offered as "the same thing" cannot be "just as good" simply because no other manufacturer has been able to duplicate this wonderful product.

INSIST UPON THE GENUINE.

It has two copper wires in the selvage and our red tag on every roll.



Call on our local dealer or write direct for samples and literature if you're interested in screen material.

Address Dept. "A"

The Gilbert & Bennett Mfg. Co.

New York Georgetown, Cgnn. Chicago Kansas City

G & B PEARL is made in two weights—regular and extra heavy. The best hardware dealer in your city sells "PEARL"

Every Home Needs Water and Light

(Continued from page 53.)

It is advisable to place the plant at a spot near to where the greatest consumption of electric current will be had. If this, in the case of a farm installation, is the farmhouse itself, then the electric plant should be in or near the farmhouse. From 30 to 40 lights, in the average farm premises will be an abundance. Probably no more than five or six will be turned on at a time, but as many lights should be available as will light up all the places where lamps and lanterns are ordinarily carried, and these should



With Electric Light, a Water System and Modern Plumbing, the Farm Home Kitchen Has Become an Efficient Workshop for the Housewife. These Improvements Give Her City Conveniences Without City Discomforts.

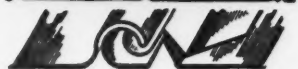
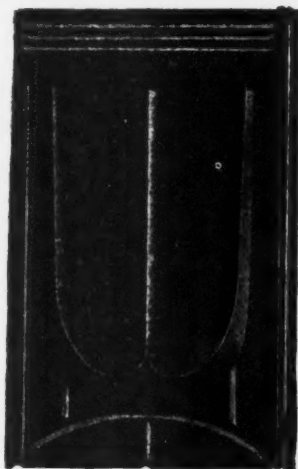
be hung with considerable thought as to the character of the light that will be obtained.

But the light is only a part of the benefit to be enjoyed where the individual electric plant is employed. Most of the farm lighting plants are in 32-volt size, and electrical appliances and accessories in the same voltage can now be obtained for any sort of electrical service that may be necessary. This will include motors of all practical sizes, fans, vacuum sweepers, washing machines, flatirons, percolators, warming pads, vibrators, curling irons, a host of electrical devices that at one time were only available in the city home, but which may now be employed most profitably in the country home.

What Electric Power Will Do

Some of the most important of these electrical features are those which the farmer himself can employ to save time and labor on the farm. These will be

(Continued to page 174.)



Edwards Metal Shingles Will Out- last Your Building

**Rot-Proof
Fire-Proof
Lightning-Proof**

We want a good, live man to represent us in each locality—to push our surpassing line of Metal Shingles and other up-to-minute metal roofings.

WRITE US TODAY ABOUT YOUR TERRITORY. Our business is growing so rapidly that it is necessary to have an agent in every community. The territory is going fast. One day's delay may mean that some one else will be given your territory. *Don't delay. Write today for our special Agents' Proposition.*

THE EDWARDS MANUFACTURING CO.

"The Sheet Metal Folks"

401-417 Eggleston Ave., CINCINNATI, OHIO

World's Largest Manufacturers of Metal Roofing, Metal Shingles, Metal Spanish Tile, Metal Ceilings, Metal Garages, Portable Buildings, Metal Lockers, Rolling Steel Doors, Partitions, etc.



REX STRIP SHINGLES

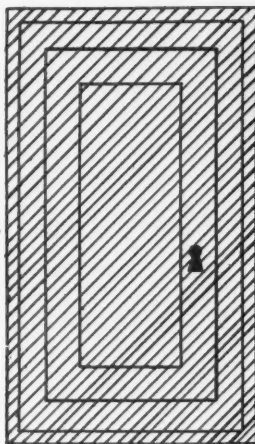
These ASPHALT-SLATE Shingles are now so extremely popular that you cannot afford to turn deaf ear or blind eye to the reasons for their great success. In the interest of your *Spring building business*, why not write to us for catalog, samples and prices?



The Flintkote Company

90 Pearl Street, Boston

New York Chicago New Orleans



STOCK FIRE PROOF DOORS

METAL AND METAL COVERED

Standard Sizes in Stock of all Designs

Write for Booklets and Price Lists

**A.C. CHESLEY CO. 279 RIDER AVE.
INC. NEW YORK, N.Y.**

ARCHITECTURAL BRONZE DEPARTMENT EXECUTIVE

We want a man who is an organizer, a salesman and an executive qualified to take entire charge of the Architectural Bronze Department of a large concern. Must have knowledge of manufacturing. Successful applicant will be given complete cooperation. Fulllest details are required regarding experience, age, etc. Confidence observed and expected. References required.

Address, D. B. A., care Morse International Agency, Advertising Agents, 449 Fourth Avenue, New York.

PREPARE NOW

For Your Spring Weather Strip Business

ANGELL WEATHER STRIP is made in all standard sizes of windows and doors, Brass Thresholds, Spring Bronze, Felt Door Bottoms, Automatic Door Bottoms, planes for installing and all other supplies.

We sell to the retailer; we do not install ourselves.

GEORGE ANGELL COMPANY

400 Penobscot Building

DETROIT, MICHIGAN



MR. BUILDER

do you know that to install Murphy "In-A-Dor" beds actually cuts original costs in building and boosts your profits and reputation? Do you know that an Apartment House, Hotel, or Home equipped with "In-A-Dor" Beds is far more desirable, both to the investor and the tenant, than without?

FACT!

But, if you do not, call personally or write today. The Murphy Technical Service Department is equipped to supply you with suggestions that will prove the above facts.

MURPHY DOOR BED COMPANY

Entire Fourth Floor
Majestic Building
Chicago

Chemical Building
St. Louis

TROUBLE SAVERS

are unquestionably the most efficient, time and labor-saving scaffold on the market today.

No bolts, screws or nails. They hook to the studing and your scaffold is up in much less time than it takes us to tell you about them.

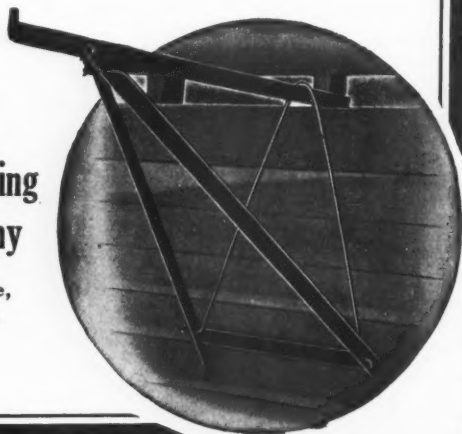
If you have been wasting many hours on each job building your own scaffolds, try "Trouble Savers" on your next job.

Use them for 30 days and if you are not extremely well pleased, we will refund your money.

Write today for our proposition.

Steel
Scaffolding
Company

Evansville,
Indiana



WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

Every Home Needs Water and Light

(Continued from page 172.)

the electrically-operated milking machine, cream separator, horse clippers or sheep shears, feed grinder, and, best of all, mayhap, the electrically-operated water system, a system that will pump all the water for his stock and more than pump the water into the house, to the delight and enduring benefit of the housewife. Bathroom, laundry, kitchen sink, all may be served with an electrically operated water system, an arrangement that is possible in the country where the farmer has his own electric plant.

Farmers and their families are rapidly waking to the possibilities in store for them thru the medium of their own farm electric plant. Many farmers building new homes are wiring, as a matter of course, even tho their plans for installing electricity may not be completed. They should be encouraged to do this. While wiring an old house presents no very grave problems, it is still an easier, simpler job to put in the wiring while the construction is under way. The benefits of electricity are so manifest, and the possibilities of its enjoyment can so easily be realized, that the present-day builder can find little reason or excuse for not wiring his new buildings at the time of construction.



Middle West Shows Greatest Building Increase

(Continued from page 20.)

spring are not making any mistake in the matter of costs. Of the total of over \$46,000,000 for the week ending February 22, 91½ per cent was private construction, 8 per cent state and municipal work and a fraction of 1 per cent government construction."

Minnesota, North and South Dakota show an increase in February. For the first three weeks in February the contracts in this district total \$819,000, as against \$500,000 for the entire month of January. In the third week in February 90 per cent of the contracts awarded were for private construction work, and of this 21 per cent was for residential property.



MANY of our readers when they find a valuable idea in the Correspondence Department write in and tell the Editor of their find. At the same time they send in word of what they have discovered. Thus does the Correspondence Department bring the "family" together for helpful exchange of ideas.



EVERY accepted practice in the building industry is the result of someone's discovery. New methods are being worked out. They make the work easier and better. When your ingenuity works out a better plan, pass it along thru the AMERICAN BUILDER'S Correspondence Department.

SHORT TALKS WITH OUR SUBSCRIBERS

AFTER a long period of restriction of their industry and of building, the hollow tile and brick manufacturers now are prepared to supply all building needs.

THOSE builders who are in the farming districts have a profitable field. Not only are there many buildings to be erected, but the farmer now wants a water system and electric lights. No one is in a better position to handle and install these labor-saving and comfort-giving conveniences than the man who puts up the building.

ONE of our readers tells us that his floor surfacing machine not only kept him busy, but earned him an excellent income during the dull times. However, the work didn't come to him until after he had gone out and secured a lot of it.

NEWSPAPERS thruout the country are urging their readers to "Own Your Own Home." Are you telling the readers of those same newspapers that you are equipped to supply them with that home?

WE are an inconsistent lot! Many now long for the "good old days of 10-cents-a-pound pork chops," but they would not like to have their incomes gauged on the same basis. It is the same with building materials and the labor that goes into a building.

When the cost of necessities comes down, so will the incomes that are derived from the labor of producing those necessities.

A GREAT proportion of the home building being done this season is by individuals for their own use, and not for investment purposes. This gives opportunity for more permanent construction, as the owner always wants the best for himself.

THERE is an immense shortage of lumber in Europe, where reconstruction is the pressing need; the stocks of lumber in this country are lower than at any time in the last few years. By the law of supply and demand, the price of lumber will not be materially reduced for a number of years.

THERE'S a lot of fun to be gotten out of the day's work. All you have to do is to look for it, and after a while is just naturally comes of its own accord.

THE Correspondence Department is the place where the members of the American Builder family can come with their problems and get the advice of the other members of the family. Those who are helped will be thankful; those who help will have the satisfaction that is derived from doing a brother a good turn.

Contents for May, 1919

| | Page |
|---|----------|
| Editorials | 21 |
| The Builder in the Limelight..... | 21 |
| No Chance of Prices Being Much Less..... | 21 |
| Congress Expected to Help Home Building with New Banking System..... | 22 |
| Uncle Sam Is Backing Us Up..... | 23 |
| How I Came to Sell Electric Light Plants..... | 24 |
| Brick Construction for Modern Carpenters and Builders..... | 26 |
| Building with Brick Brings Satisfaction to Many Clients..... | 26 |
| Story-and-a-Half Brick and Stucco House and Garage..... | 28 |
| Electric Woodworkers Are Little, But Oh My!..... | 30 |
| Remodeling Old Houses Is Profitable Work..... | 33 |
| Announcing Portfolio of Beautiful Homes..... | 34 |
| Blue Print Portfolio of Beautiful Homes..... | 35 to 38 |
| A Fine Dutch Colonial House..... | 35 |
| White Bungalow That's a Beauty..... | 36 |
| Story-and-a-Half Stucco House..... | 37 |
| Two-Flat Building of Brick and Terra Cotta..... | 38 |
| Two-Family House of Brick and Stucco..... | 39 |
| How to Hang the Garage Doors so as to Save Space..... | 40 |
| Three-Story and Basement Brick Hospital..... | 44 |
| One-Story Brick Store Building..... | 45 |
| Fred Beard Tells Chamber of Commerce How to Put On a "Build a Home" Campaign..... | 48 |
| Get a Good Job Remodeling that Old Store Front..... | 40 |
| Structural Tile Work..... | 50 |
| Anchoring Frames and Other Features to Hollow Tile Walls..... | 50 |
| American Builder Building Plans..... | 54 |
| Blue Prints of a Seven-Room House..... | 54 |
| Blue Printed Plans..... | 55 to 58 |
| Some Aspects of Jobbing Work..... | 59 |
| Farm Buildings Arranged for Convenience..... | 60 |

| | Page |
|---|------|
| Building for the Future..... | 60 |
| Let Gravity Do the Work..... | 61 |
| Farm Profitable Building Field..... | 62 |
| Hints on Storing Timber to Prevent Decay..... | 63 |
| Correspondence Department..... | 64 |
| Wants to Build a Gothic Roof Barn..... | 64 |
| Floor for a Colony Hog House..... | 64 |
| Why an "Architect's Level" and a "Builder's Transit?"..... | 64 |
| Why Do the Windows Freeze?..... | 64 |
| Formula for Blue Print Paper Solution..... | 66 |
| To Keep Ventilating Flues from Sweating..... | 66 |
| Weather-Tight Sleeping Porch Windows..... | 66 |
| Asks for Tile Roofing Facts..... | 66 |
| Quantities of Materials in Plaster and Concrete..... | 68 |
| Suggests Articles on Woodworking..... | 68 |
| Wants Formula for Waterproof Glue..... | 68 |
| Wants Small Septic Tank Plan..... | 68 |
| Planning Septic Tank for Large School..... | 68 |
| Building Construction Details..... | 70 |
| Design of a Small Tool Chest..... | 72 |
| How to Find the Run of Rafters in a Gambrel Roof..... | 74 |
| U. S. Training Service Preparing Pamphlets for Foreman..... | 78 |
| Advertised Prices Restore Confidence..... | 78 |
| The Editor's Drawer..... | 84 |
| Hollow Tile Silo with a Water Tower Atop of It..... | 84 |
| What a Chemical Closet Consists of..... | 86 |
| Three-Piece Wing Beams as Strong as Solid Beams..... | 86 |
| Casement Windows for Sun Parlor and Sleeping Porch..... | 88 |
| What's New?..... | 94 |
| General Utility Hand Saw and Heavy Duty Saw..... | 94 |
| Adjustable Scaffolds for Masons and Roofers..... | 94 |
| A Screen Door that Can't Sag..... | 98 |
| Portable Folding Bath Tub with Heater Attached..... | 100 |

| | Page |
|---|------|
| A Pure Copper Cable Lightning Rod..... | 104 |
| Triple Registers with this Pipeless Furnace..... | 104 |
| Catalogs, Bulletins and Books Received..... | 108 |
| Profitable Opportunity in Screening Porches..... | 114 |
| Motor Trucks in the Building Industry..... | 116 |
| Special Trailer for Lumber Loads..... | 116 |
| Trucks on the Building Job..... | 118 |
| How Retail Lumber Dealers Save Hauling Expense..... | 120 |
| Hauling Tile and Heavy Building Materials..... | 120 |
| Small Trailers Handy for Hauling..... | 122 |
| Trucks Help Build Roads for Themselves..... | 126 |
| Motor Truck Dump Bodies Earn Big Dividends..... | 128 |
| The Building Industry and the Victory Loan..... | 130 |
| The Rapid Increase in Building..... | 132 |
| Paint vs. Wall Paper..... | 132 |
| "Build a Home" Idea Spreads Rapidly..... | 134 |
| Painted Interiors in Demand..... | 138 |
| Conditions in Building and Construction Fields are Improving..... | 140 |
| Renovating Floors..... | 142 |
| World Shortage of Lumber Revealed by Investigation..... | 144 |
| Model House as "Build a Home" Campaign Aid..... | 148 |
| What Every Disabled Soldier and Sailor Should Know..... | 150 |
| Scratched Joints Versus Smooth Joints in Gluing..... | 152 |
| Famine in Bicycles Predicted..... | 152 |
| News of the Field..... | 154 |
| Dennison, Ohio, Building Co. Formed..... | 154 |
| Cornell Wood Products Company Moves Offices..... | 154 |
| National Lumber Manufacturers' Association Elects Officers..... | 154 |
| Simonds Foremen Have Banquet..... | 154 |
| H. H. Lucas Joins the Ideal Sales Force..... | 156 |
| Architects to Study Problem of Service..... | 156 |
| The Spring Clean-Up..... | 156 |

CHICAGO

SPRING HINGES REPUTATION

Do you specify a spring hinge with distinctive features which will appeal to your client and assure satisfaction to all concerned?



Chicago "Relax" Spring Hinges

are in great demand. They are substantial in construction and readily applied. The EXCLUSIVE FEATURE of spring action release, allowing the door to be placed at any desired position and automatically re-engaging when the door is closed,

is of recognized merit and utility.

Send for Catalogue C32. It fully illustrates and describes the most complete line of Spring Hinges manufactured

Chicago Spring Bolt Company

CHICAGO



NEW YORK



Stained with Cabot's Creosote Stains
C. M. Hart, Architect, Bay Shore, N. Y.

Stained Shingles

The Warmest, Most Artistic and Most Economical of all House Finishes

Wood shingles are two or three times warmer than the gummed-paper substitutes, and they are cheaper, last longer and are incomparably more artistic and attractive. When stained with the soft moss-greens, bungalow-browns, tile-reds and silver-grays of

Cabot's Creosote Stains

they have a richness and beauty of tone that no other finish can equal, and the creosote thoroughly preserves the wood. Use them also on siding, boards, sheds and fences. Anyone can apply them with best results at least expense.

Cabot's "Quilt"

makes floors and partitions sound-proof by breaking up the sound-waves and absorbing them. It makes walls and roof cold- and heat-proof by a cushion of minute dead air spaces that prevents the conduction of heat. From 28 to 30 times as efficient as cheap building paper.

You can get Cabot's goods all over the country.
Write for samples and name of nearest agent.

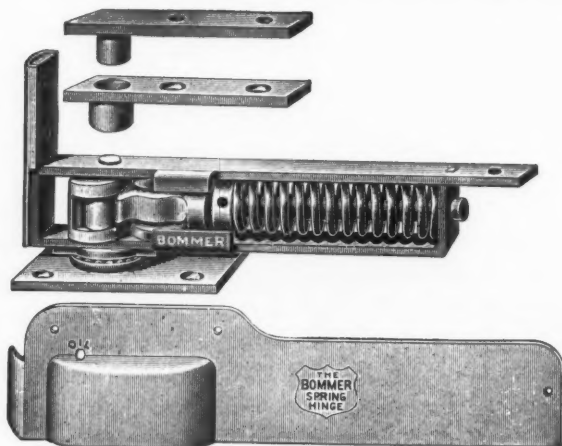
SAMUEL CABOT, Inc.

Manufacturing Chemists BOSTON, MASS.
1133 Broadway, New York 24 W. Kinzie St., Chicago
Cabot's Brick Stains, Stucco Stains, Conservo Wood Preservatives, Damp-proofing, etc.

BOMMER

Floor Surface Spring Hinge

Double or Single Action, Holdback, Ball Bearing. Every moving part of this hinge can be oiled from a single hole on outside of side-plate.



The most durable hinge of its type; holds the door open when swung to 90 degrees at either side

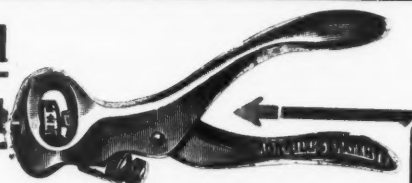
Your Hardware Merchant Can Supply Them

Bommer Bros., Manufacturers, Brooklyn, N.Y.

Worth Much to You

Morrill

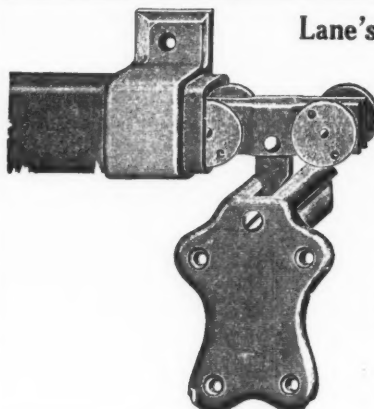
Saw Set



All master carpenters are using this Saw Set. In one operation it takes out the wrong set and puts in the right one. Write for FREE booklet "Saw Points". It tells how to properly joint, set and file hand saws.

CHAS. MORRILL

94 Lafayette Street
NEW YORK



Lane's Superior Quality Ball Bearing Trolley Barn Door Hangers

are rapidly displacing those of inferior quality. Send for latest prices and complete catalog, showing all styles of house and barn door hangers.

LANE BROS. CO.
Carroll Street
Poughkeepsie, N. Y.